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ORIGINAL ARTICLES.

LEGAL ASPECTS OF SPINAL CONCUSSION.

Read in the Section of Medical Jurisprudence, at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

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OF CHICAGO.

My paper was announced with the above heading through inadvertance, but it does not matter, as there can be but one scientific consideration of the subject, and whatsoever pertains to the medical features of this derangement necessarily concerns the legal, as a broken head or leg should be nothing else in law than what they are in medicine. There are, however, artificial matters not properly involved in the question of the real existence of injuries of any kind, that burden law books and works on medical jurisprudence.

The fact that there may be a preponderance of subjective symptoms in alleged concussion cases does not make such accidents peculiar in a medico-legal sense, for several forms of insanity and many physical ailments, at times, discussed in courts possess this same disadvantage. But turning from those rather hackneyed matters let me present a fresh aspect of the subject in a paper on

ERICHSEN'S DISEASE, AS A FORM OF THE TRAUMATIC NEUROSES.

"What's in a name?" says Shakespeare. Instead of being distinctive, names are too often sources of confusion, as botanists, zoölogists and anatomists are aware. Plants in the system of Linneus were specifically named "montana" when they were not exclusively mountainous; animals called "fluviatile" were, later, found oftener in lakes; the "pituitary gland" is neither pituitary nor a gland, the arteries were named as air receptacles, and so we might multiply misnomers indefinitely because of the attempts of our ancestors to make names superficially descriptive. About twenty-five years ago Erichsen described a variety of derangements following upon concussion of the spine. Now nothing could be simpler, apparently, than the expression "spinal concussion," and nearly everyone fancies that no misunderstanding could arise in the use of such a term. Nevertheless that very title has in itself occasioned great misunderstanding, because it had a restricted as well as a general meaning.

The cause of this confusion dates from Erichsen's description of the different kinds of ailments that may arise from blows to the back, such as severe direct injury to the spine causing demonstrable cord lesions, slight indirect or remotely occasioned back injuries, sprains, strains, wrenches and twists of the spine, wherein occurred cord compression by extravasation or inflammatory exudations, nutritive cord alterations, *and a "functional disorder"* to which he gave no name, but which came to be known as the disease "spinal concussion," caused by a spinal concussion. In the interests of scientific medicine I named that so-called functional disorder "Erichsen's disease" because John Eric Erichsen was the first to describe a particular group of symptoms that often follow upon concussions.

That distinguished London surgeon wrote to me as follows:

> I assure you that I feel much gratified and very highly flattered by having my name appended by you to the group of symptoms so very characteristic and remarkable, when taken in the concrete, which I believe that I was the first to describe, which result from that peculiar form of spinal injury now recognized under the term of "spinal concussion."

Had Erichsen given any sort of a name to this disorder, however arbitrary that name might have been, there would have been less occasion for the wrangling that has occurred in court rooms all these years.

Instead of entangling ourselves in the endeavor to explain that spinal concussion symptoms may sometimes be induced by a spinal concussion, misunderstanding is impossible when we say that a concussion of the spine may originate a vast range of troubles, such as dislocation of the vertebræ, cord injuries, etc., and it may also cause Erichsen's disease.

What then is Erichsen's disease? It is a serious disturbance of the functions of the spinal cord without there being demonstrable cord lesions. Such disturbance can be best accounted for by supposing that the spinal sympathetic system has been deranged, secondarily interfering with the blood supply of the cord and its membranes, con-

joined with other vaso-motor phenomena such as emotionalism, flushings, cardiac rapidity, hyperidrosis, sleeplessness, headache; directly due to the original sympathetic system derangement. The fact that the group of subjective symptoms and objective signs are distinct from other disorders sufficiently set it apart from other ailments or traumatic neuroses, and justify its special title. The claim is sometimes made that naming diseases after individuals is unscientific and burdens our nomenclature unjustifiably. This is true only in a certain sense and it is easy enough to formulate a law when such christening would be proper. The golden mean can be observed in this as in other respects, and the matter is one of such great importance that I do not hesitate to take up time in its elucidation. No trivial reason should justify such naming, but when there is an eminently proper cause for so doing, such as in this instance, the medical profession would profit by having the discoverer's name forever associated with the disorder.

If a disease *can be accurately* named descriptively, then the descriptive name should be preferred, but the risk is run that with the advance of knowledge the name ceases to be descriptive and too often is absolutely erroneous and misleading. At one time the sacrum was dubbed sacred as the seat of the soul, because supposed to be imperishable.

A formidable disease became universally prevalent after the return of Columbus from America and we were threatened with its perpetuation as the American disease, just as at one time its companion was known as *Französische-Krankheit;* but as attention was called to the fact that the greatest pretenders to piety were the most numerous sufferers a diversion was made in favor of the title "holy sickness." The etymology of the word "syphilis" is obscure, and hence the name is arbitrary and becomes as much of a *nomen proprium*, as had it been called Smith's or Jones' disease. Gonorrhœa is a misnomer, because it means a flow of sperm.

Huxley opposes descriptive names, in the main, in zoölogy, and holds that it is far better that we should forget the etymology of any animal name, and use it merely as a title without regard to its origin.

Descriptive naming is carried to extremes by savages in such appellations as "Sitting Bull," "Red Jacket," "Man-Afraid-of-his-Horses," and the tough element in our cities describe one another as "Shorty," "The Bruiser," etc. I merely mention this as an offset to the radical claim that diseases should in no case be named after those who first described them. Purely arbitrary names that convey no descriptive meaning often have decided advantages, the foremost advantage being that an arbitrary name such as Bright's, Addison's, Grave's disease cannot possibly mislead. You receive the history of the disorder in the name and are compelled to learn what it was that Bright, Addison and Graves discovered.

I was disposed to the belief that this sort of thing could be overdone, through naming of such obscure complaints as Thomsen's disease, infrequently occurring disorders such as the Cheyne-Stokes breathing, Argyll-Robertson pupil, but as the law of survival of the fittest would overtake inappropriateness in this regard, I now incline to thus honor discoverers, and we all realize that little enough honor is accorded by any delver in our profession, however conscientious and gifted.

Let me tell you of an instance where immense advantage would have been gained by avoidance of attempts to describe a disease in a name: The terrible form of insanity now called "paretic dementia" by alienists was first described by Bayle in 1822–26. Later Calmeil missed the opportunity of his life, because, while he clearly recognized the differences it presented from other forms of insanity, he did not attach his predecessor's name to the malady as he should have done. So doing would have saved thousands of insane from the gallows, the guillotine, the prison. Could we have had Bayle's disease, instead of the present abominable array of misnomers, every physician would have known something about it, and recognized it as an entity, instead of to-day having to learn that there is a disorder that suddenly attacks some overwrought business men, oftener the rich than the poor, the ambitious rather than the drone, the intellectual rather than the thoughtless; the trouble that killed Sir Walter Scott, and other historical personages, a trouble whose pathology has been worked out even better than has been that of pneumonia; a mental ailment that presents distressing problems mainly because so few know what is absolutely known concerning it. It is too late to call it Bayle's disease, it is with the utmost difficulty that the recent designation "paretic dementia" is favored. I speak to you of the affection that has been called in our books "general paralysis of the insane," "progressive general paralysis," "general paralysis," "general paresis," "paralytic dementia or dementia paralytica," "progressive paresis," and their equivalents in French and German. Not one of these descriptive names really described the disorder, and excellently educated physicians, not versed in this particular matter, have been led into deriding the very existence of the complaint, *through taking the name as descriptive.* Fordyce Barker, of New York, who was a specialist in everything, aroused the applause of the court room mob in the Guiteau trial by swearing that there was no such thing as "general paralysis" except in death. Yet doubtless not one in that court room but would have thought he understood precisely what was meant

had the atrociously lying name "softening of the brain" been used instead.

A volume could be written upon the accursed influence of that word grouping: "softening of the brain." It has been used in a metaphorical sense for a century. In the ignorant mind satisfactorily descriptive of what to the pathologist is complex, and often involves sclerosis, atrophy, or putting it popularly, "hardening of the brain."

While pathologist of the Chicago County Asylum the certificates I filed from the thousand city practitioners included in "softening of the brain" at least fifty dissimilar insanities, such as melancholia, paranoia, atheromatous insanity, hebephrenia, mania, katatonia, circular insanity, confusional, stuporous insanity, and even terminal dementia. Every insanity almost was "softening of the brain."

Every physician in the world should remember that from the standpoint of the alienist there is no such disease as "softening of the brain." The pathologist can tell you of numerous kinds of brain softening; red, yellow and white, that are merely degenerative processes more often associated with paralytic than mental phenomena, subsequent to extravasations, embolisms, thromboses. Whosoever speaks of "softening of the brain" as a mental derangement either caters to ignorance or is himself ignorant of alienistic science.

Turning again to scientific nomenclature we find precision in electrical science in the naming of measurements: farads, volts, ampères, ohms; and in currents: the faradic, galvanic and franklinic, after Faraday, Watts, Ampère, Ohm and Franklin. Very true the names themselves convey no meaning to the uninstructed in electrical science, just as the term Erichsen's disease would compel some attention as to what was meant, though every ass would suppose he knew what was included in "concussion of the spine" and "softening of the brain."

Oppenheim, of the Berlin University, carefully studied the effects of concussion accidents and incidentally some nerve injuries, and included all under the title "Traumatic Neuroses," and forthwith that name has been adopted by several writers in lieu of spinal concussion. The impropriety of this is evident when we reflect that while Erichsen's disease may be *a* traumatic neurosis, sciatica, paralysis agitans, chorea, myelitis, epilepsy, and myriad diseases may also be traumatic neuroses, so that term is too generic, and the fact that Erichsen's disease is one of medico-legal importance does not warrant so sweeping a designation in which can be included thousands of other ailments.

S. Weir Mitchell, during the late war, made extensive researches with regard to direct injuries to nerves, and the traumatic neuroses described in his book differ widely from those investigated by Oppenheim.

Sperling and Kronthal, in the *Neurologisches Centralblatt*, June 1-15, 1889, report a case that died from cardiac and pulmonary disease, the autopsy revealed arterial sclerosis to a marked degree with occasional hyaline and fatty degenerative spots in the entire arterial system, particularly in the cerebro-spinal vessels. The trunk of the sympathetic was peculiarly degenerated. There were scattered degenerative spots in the white part of the cord and in the gray of the lower dorsal region and a small hæmorrhage in the mid-dorsal region. This sympathetic and arterial degeneration lends great plausibility to the theory I advanced that the spinal sympathetic was the main seat of the disorder.

Meynert, in the *Wiener Klin. Woch.*, 24, 26, 1889, locates the seat of the "traumatic neuroses" in the forebrain. Now no one can have a greater regard for the opinion of this famous cerebrologist, but occasionally Meynert can be as wrong as Charcot or Pasteur, and much of this fallability comes from the impossibility of a single mind, however trained, to grasp all aspects of the limitless field of human knowledge. In these days it is the ignorant alone who claims to be instructed in *all* departments of medicine and surgery.

The depths of our attainments are inversely as their breadth, and the specialist is narrow whose career was not begun as a general practitioner. To be a pathologist and nothing else, a neurologist and nothing else, may confer ability in some few particulars but breadth of thought can only be brought to bear upon a special line through previous observation in many fields.

Meynert has studied the minute anatomy of the brain but he has not studied spinal concussion in its entirety, and his immense knowledge of the cerebrum is misapplied in endeavoring to locate the vast range of general vaso-motor phenomena in a simple lesion of a restricted part of the brain.

Instead of a wrangle over the threadbare legal attitudes this matter can assume I should be glad to have the views of my confrères upon the pathology of the neurosis and the advisibility of naming it after the great London surgeon Erichsen.

DR. HERBERT JUDD, of Galesburg, Ill.: In connection with the discussion of the "Legal Aspect of Spinal Concussion" I beg to say that during the past twenty years I have known of twenty-six cases, all in the State of Illinois, of so-called concussion of the spine, that have been brought to my notice, and which I have watched with some interest, while the cases were under consideration by attorneys for corporations, against which claims for damages had been preferred.

I have known of many other cases of this disorder, in which there existed grave doubts of the

patient having sustained any injury, but the twenty-six cases referred to can be verified by the files of papers in the office of the attorney of the Chicago, Burlington and Quincy railroad company, at Galesburg, Ill., and the affidavits and evidence there preserved. When the liability of the railroad company for whatever damages the claimant had sustained was conceded, there were but few of the cases litigated, but were settled prior to suit in some cases and prior to trial in others. In all the cases I especially allude to the genuineness of the claim, that of permanent injury from shock or concussion of spinal cord, was denied by the railroad attorney, upon the candid opinions of surgeons and physicians obtained by the company. In every case, however, the railroad attorney negotiated the best settlement possible, and usually regarded it as good policy to pay liberal sums rather than to submit to a trial when courts could not give protection against perjured, prejudiced and ignorant testimony.

Some of these cases had "litigation symptoms" for a long time prior to settlement. Several of them were so serious as to render the patient bedridden and helpless, but in all of them thorough and complete recovery resulted. In most of them recovery was rapid and rather astounding, and it was noted that improvement followed swiftly after the "damages were paid."

Understand that in all these cases, the only question in controversy was that of actual injury. They were cases in which the symptoms were subjective, and the condition of the patient could be determined alone upon his statement, to which too much credence is often given by physicians. These were cases where it was deemed the best financial policy to submit to black-mail to avoid legalized robbery, the amount of which depended upon the sympathies of a jury with a claimant, and their unreasonable prejudice against corporations, all of which they assume to believe are immensely wealthy and able to stand the assessment.

I know of no case of actual patent injury, caused under such circumstances as to create a legal liability, where there was any serious trouble in arriving at a fair and just sum to be paid as damages, satisfactory to both parties; nor do I ever expect to see such a case of actual permanent injury, in court and on trial where the question of liability has been conceded.

All such honest, just claims can be and ordinarily are settled out of court. I have little faith in book cases of spinal concussion.

These special cases I have referred to had their origin in the hints, and suggestions and help of Erichsen. The study of Erichsen began with date of accident to train; the patients were crammed with directions for fraud. The cases I have in mind were carefully watched and traced up after settlements were made. This was done as a source of information and to verify if possible the views of fraud entertained; and, as I have already stated, every one of them recovered, and in several of them the fraud became so apparent as to cause some notoriety to the patient, and some unenviable notoriety to the advising physician, especially in a few cases of complete recovery after a long and no doubt laborious siege of "total disability."

I believe there is a maxim of the criminal law that every person is to be regarded as innocent of crime till proven to be guilty. It seems about time that surgery should have and act upon a maxim, that every person claiming disability from concussion of the spinal cord, where no objective symptoms are to be discovered, is to be considered as planning for your aid in enabling him to rob some employer; until you can by your own knowledge of the case discover that injury actually exists.

If physicians would or could consider and treat all cases of alleged spinal concussion without regard to, or any consideration of the desires of the patient to reap a money compensation, there would be less difficulty in effecting cures. If the physician would confine his services strictly to his own duty to effect a cure, and refuse to consider or meddle with the financial or pecuniary plans of his patient, he would attain much more brilliant success in his treatment. If he in good faith endeavors to effect a cure, and not to establish a case of permanent injury for the pecuniary benefit of the patient, or to gratify his avarice, he would find few cases of the disease under consideration.

How many cases of concussion of the spinal cord can any of you recall in your own practice, where the patient fell from a load of hay, or was thrown from his own wagon, or fell from a barn loft, or received injuries or met with an accident for which no one but himself or his own family were blamable? If you would consider these cases as you consider and treat spasms in children during the first and second dentition, or fits resulting from worms, you might be led to better means of improving the physical condition of the patient. If you would refuse to minister for the benefit of the patient's estate, and apply your skill to his person, you might acquire more success. If you would exert your proper influence to keep your patient out of the hands of the "calamity lawyer," and to shut out from his mind all present consideration of the possible pecuniary gain, you would have taken a giant step towards his cure.

Is it not our duty as physicians to benefit the physical man, even at the expense of property?

Is not health worth more than riches, even honestly gained? I have said this much with the sincere desire for the good of the profession. Facts are "brutal things" to deal with.

DR. CLARK GAPEN, of Omaha, agreed with Dr. Clevenger that the disease described by Erichsen under the name "spinal concussion" should be named "Erichsen's disease," not only to fix it more accurately, but because a large amount of obloquy attends the subject which Erichsen ought to bear. His book is said to have cost English railways fifty million dollars, and American railroads as much more. Dr. Gapen had taken Erichsen's cases and classified the symptoms under objective and subjective heads, and was amazed to find how few were the objective. His experience had in the main agreed with that of Dr. Judd in that most of the cases were either hysterical or malingering; moreover, many of the symptoms, as flushing, increased temperature, emotionalisms, were in fact cerebral symptoms rather than spinal. Page has shown how difficult it is to injure the cord owing to its looseness in the bony canal and the fact that it is surrounded by fluid. Actual injury is very rare and usually well marked from the outset.

DR. HAROLD N. MOYER, of Chicago, stated that he was rather astonished at Dr. Judd's statement that concussion cases did not occur unassociated with damage claims. Dr. Judd's experience must be limited indeed to allow him to make a remark of that kind, for in the past five years Dr. Moyer had seen a large number of concussion cases in which there was no suspicion of a damage suit, and these did not differ at all in course, symptoms, duration or termination from those that had been the subject of legal contention. Dr. Moyer heartily agreed with Dr. Clevenger in suggesting the propriety of the term "Erichsen's disease;" while it is not all that one could desire, yet it is such a great improvement upon that of "spinal concussion" that it should be adopted, at least until the pathology and morbid anatomy of these conditions shall be better understood.

In reply to Dr. Moyer; DR. JUDD said he had been in active practice twenty-two years, that he had seen concussion cases in which there was no suspicion of a damage suit, but that all such cases recovered; that litigation cases did not recover until paid for.

DR. ORPHEUS EVERTS, of Cincinnati, said: I approve the suggestions of the paper, and think the adoption of the term "Erichsen's disease" proper and useful. If a definite term is used by a medical man referring to disease, such as "Bright's disease," "Basedow's disease;" as to surgical operations, such as "Battey's operation," etc., it is generally, or presumably, because he has definite ideas respecting conditions thus named after original investigators, while more general terms, such as "spinal concussion," "kidney disease," etc., do not convey such definite ideas, or other than vague notions of some disorder of organs named, however slight or severe, or however caused.

It is convenient, however, for practitioners who are not scientific to have these general terms for use in emergencies—they sound well, and if delivered with proper expression go a great way in confirmation of one's reputation for wisdom. For example, the term "softening of the brain." If one meets with obscure but serious cerebral symptoms all that is necessary is to say, with becoming gravity and a look of significance, "softening," and the whole business is settled.

"Congestion" used to be the favorite term by which to account for failure in treatment of various forms of disease, terminated often unexpectedly by death. All the baffled practitioner had to do was to shake his head, and say "congestion." Such terms are convenient—for the concealment of ignorance. The name of Erichsen is worthy of commemoration, and may well be associated with a form of disease which he has so well described.

DR. KIERNAN, of Chicago, had the clinical experience of Dr. Moyer. That railroads were not always of the type described by Dr. Judd was shown by the Chicago railroad "jury fixing" cases. That spinal concussion existed, the case reported by Dr. McIlvaine, of Peoria, would alone demonstrate. A female victim of a railroad accident had been suspected by Dr. McIlvaine of being a malingerer. She had secured damages, but the spinal disease had gradually progressed into helplessness and death. Dr. Kiernan had himself seen similar cases.

DR. G. FRANK LYDSTON, of Chicago, said: I consider the work which Dr. Clevenger has been doing upon the subject of so-called "spinal concussion" a most important advance in medicine. His adoption of the term "Erichsen's disease," while open to some objections, is on the whole a wise and useful plan. The laity have already learned that spinal concussion is an omnibus which may be made to cover much malingering. By the adoption of the term "Erichsen's disease" we will at least compel the humbug to learn his lesson over again. The term will certainly convey to the malingerer the idea of a distinct and definite affection which he must substantiate by plain and positive proofs. I am aware that it is not easy to evolve order out of the chaos of symptoms which characterize the results of concussion of the spine, but as far as may be I believe that Dr. Clevenger has accomplished it. His explanation of the pathology of the varying phenomena of Erichsen's disease, is thus far the only rational and intelligible one in medical literature. I regret that he has not said more of his theory to-day. Personally I would advise those who are not familiar with his views, to read his book. If others derive the same benefit from its perusal that I have done, they will feel amply repaid.

DR. CLEVENGER, in closing the discussion, stated that he had been astonished at the im-

provement of some patients after the settlement of damage claims, but this seemed to be due to the relief from worry which the conclusion of the suit afforded; but it would be presumption to affirm that such cases were *entirely* cured until years had elapsed and unprejudiced opinion been engaged. This "quick cure by settlement" savored too much of the unscientific assertion of Herbert Page, who was the most ordinary special pleader for railways.

While both Dr. Gapen and Dr. Judd had been opposed to Dr. Clevenger in recent suits against corporations, and seemed to look at the matter from one standpoint, the latter had frequently been called as expert for either side, and sometimes for both sides at the same time.

The statement that there were no vaso-motor centres in the spinal cord, and hence the symptoms were cerebral, was rather surprising, when the sympathetic system is so intimately united to the spinal all the way down the cord length, and such ordinary matters as constipation and hæmorrhoids producing brain troubles show that such "vaso-motor" difficulty as emotionalism need not have its origin necessarily in the head.

The intimation that subjective symptoms were always false, when made the basis of claims against railways, is on its face absurd. Physicians have to judge from the consistency of symptoms whether they were real or not.

Contrary to Dr. Gapen's findings, Dr. Clevenger had devoted all his spare time for three months in analyzing Erichsen's cases, and found an abundance of objective signs in all. But it depends upon what is meant by "objective." To the uneducated the galvanometer and electrical indications convey no meaning. Paralysis and insanity of the gravest kinds would present nothing "objective" to the biased witness. There are cases in which no honest opinion can be reached, and in such it is best to allow the mind to remain a "scientific blank," as Huxley advises. Only the untrained imagine they must have a positive opinion upon everything under the sun. Sometimes a little waiting will determine matters.

A case examined a year ago presented nothing but purely subjective symptoms, and to-day there is atrophy of an arm. In another instance a laborer fell partly into a coal hole, with one leg in and the other out, and after a year is unable to do any work, but there was such an utter absence of anything in the way of electrical or other findings, and so many of the ordinary symptoms of Erichsen's disease were missing, that Dr. Clevenger told the lawyers that everything depended upon the credibility of the witness, and he preferred having nothing to do with the case as it stood at present.

We find many instances, in and out of the books, of fatal issues among patients accused of malingering. We occasionally find a conscientious railway surgeon who acknowledges that railway accidents do not always improve health, and that a few dollars' settlement will not resurrect the dead.

A NEW METHOD OF LARYNGEAL AND BRONCHIAL MEDICATION BY MEANS OF A SPRAY AND TUBE DURING THE ACT OF DEEP INSPIRATION.

Read in the Section of Laryngology and Otology at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY J. MOUNT BLEYER, M.D.,
OF NEW YORK.

I bring before you a novel method and use of the ordinary cold spray. By the extra aid of a hard rubber tube six inches in length and three-quarters of an inch in diameter on both sides of its openings, through which a cold spray with tip pointing downwards is passed and held in the mouth between the lips which are clasped over the tube. With this tube, spray, and position of the lips and deep inspirations any desired medicated fluid amounting from a half to one ounce may be forcibly inhaled during the act of ten deep inspirations, and thus reach the deeper portions of the respiratory tract, without coughing, gagging, or immediately expectorating the fluid thus inhaled. The time occupied for re-expectorating the fluid medicament thus inhaled varies in different individuals. Some begin lightly within from five to ten minutes after the inhalation, others again half to three-quarters of an hour later. The sputa which is expectorated for several hours after contains a certain amount of the medicated inhalent used, showing thereby that the desired medicament used remains in contact with the diseased parts long enough to have its therapeutic effect.

The Method of Making an Application.—The patient is placed in an upright position, or, better, standing. The collar or tight dress about the neck is removed so that nothing interferes with taking deep and slow inspirations. The position of the head is an important point to be observed. It must be inclined backwards during the act of each inspiration so as to destroy as much as possible the rectangular curve that the windpipe makes with the oral cavity. The patient before being made to use these two instruments, must be shown how to take deep inspirations and slow expirations without exerting himself. He must also be taught how to hold in the breath for a few seconds after each inspiration. Those are some of the cardinal points to be looked after in order to get the results from each inspiration. These points are easily acquired by patients. When once understood how to make use

of such inspiratory and expiratory powers, without the spray and tube, then begin the same method over again; with this exception that the instrument (spray and tube) are now used for practice, as if the patient was taking an inhalation. Place the tube half its length into the mouth; the lips are clasped over it. The spray is placed into the opening of the hard rubber tube into which the spraying tube is inserted so that its inner end protrudes not more than one-quarter of an inch. This point regarding the size and position of the tube is very important. The best motor power for the propulsion of the spray, to my mind, is compressed air. The pressure need not exceed 60 lbs. This will suffice for any application.

FIGURE 1.

It will be found during the act of deep-forced inspiration that the vocal cords separate and, still further, on inspiration they will separate to their entire extent. In the subsequent expiration they will again approach each other. During inspiration the vocal cords form a wide and almost pentagonal opening, and under favorable circumstances one can on examination then see the bifurcation of the trachea; as seen in the accompanying drawing.

The epiglottis stands nearly erect, if not, through its anatomical formation, is curled upon itself or may assume another shape. These physiological facts are known to every one who practices with a laryngoscope.

The tube serves as an adjunct to the propulsion of the specified inhalent. The tube, and the act of deep inspiration, also diverts the attention of the inhaler, and thereby calling into action another set of muscles favoring the passage of the inhalent. During the act of deep inspiration the tongue lays flat in the mouth, and as described before, the vocal cords and epiglottis are now in a position to permit the passage of the medicant, and assisted in reaching the desired spot by the propelling force of compressed air.

I have made numerous experiments with this method of application upon the dog and rabbit before using it upon my patients, the details of which are beyond the scope of this paper. Never-

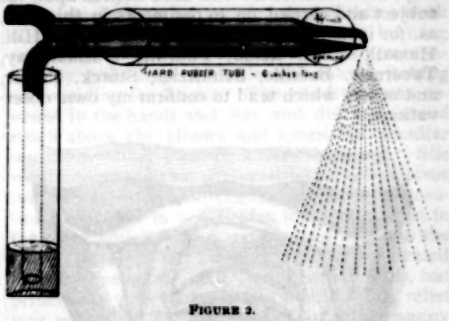

FIGURE 2.

theless, I will give a short description of one of these experiments in order to show the effectiveness of this method in the application of medicaments in a fluid state to the deeper portion of the respiratory tract.

A healthy dog weighing fifty pounds was placed upon a table. The mouth was opened and the rubber tube inserted to its proper length. The mouth was then fastened over the tube by straps made for the purpose. The tube being open the respiration was thus carried on undisturbed. The spray was then attached and the animal made to inhalate. The substance used was a strong solution of the extract of rhatany, the quantity sprayed being half an ounce. This almost immediately brought out a bright

FIGURE 3.

redness of the larynx, trachea, and of the bronchi, which entirely disappeared after the discontinuance of the spray in about two hours from those parts under examination.

The sputa, however, continued to be red some five hours longer; at this point the animal was killed and a post-mortem examination was made. Quantities of the fluid inhaled were found depos-

ited throughout the trachea and smaller bronchi. Other experiments made with the same end in view gave similar results.

It is a well known fact that finely divided substances do penetrate into the air cells, as in the case of colliers, grinders and others who are constantly inhaling pulverized particles and matter while engaged in their occupations. On the other hand it is extremely doubtful if any of the medicaments used in any of the numerous inhalers at present in vogue ever reach the walls of the ultimate lung alveoli. The conditions under which and the extent to which sprays and vapors enter the lungs are to a certain extent satisfactory, most authorities who have written upon the subject and carried on experiments in this line, as, for instance, those made by Dr. Arthur Hill, Hassall, of St. Remo; Fournie, D'Emarguay, Tavernier, Bataille, Schnitzler, Störck, Fieber, and others which tend to confirm my own observations.

FIGURE 4.—Position of the larynx during the act of deep inspiration.

The advantages of the method I have described are as follows:

1. Cheapness of the instrument, which is simply a hard rubber tube.

2. The advantage of the continued effects of the remedy as the time between each application lasting five hours, until another is necessary, and then the patient can satisfactorily make it himself and thus keep up the remedial effects.

3. No cough or gagging is excited whatever, as compared with the use of the spray alone in making laryngeal application.

4. The quantity of fluid inhaled at each sitting is half to one ounce in from three to four minutes' time.

5. When applied to the larynx, trachea and bronchi no spasmodic contractions arise during its use whatsoever.

6. Irritating medicaments in solution can be thus applied without exciting much cough. I often use nitrate of silver, thirty grains to the ounce, iodine, tannic acid, peroxide of hydrogen of full strength without any trouble or bad effects.

My results in the treatment of (Störck's disease) or ozæna of the trachea, acute and chronic bronchitis, laryngitis, tracheitis, phthisis, etc., have given me such satisfaction that I bring this method before your notice.

For the want of more time I was compelled to shorten my paper.

Several drawings accompany this paper. Figure 1 demonstrates the exact position of the lips around the tube during the act of deep inspiration.

Figure 2 shows a Sass' glass downward pointing spray passed through the hard rubber tube, the spray points looking out at the opposite opening a quarter of an inch.

Figure 3 shows the tube.

Figure 4 illustrates the position that the voca cords take during the act of deed-forced inspiration.

Tubes are made by Tiemann & Co., New York City.

83 2nd avenue, New York City.

MULTIPLE NEURITIS.

BY ARCHIBALD CHURCH, M.D.,

PROFESSOR OF NEUROLOGY IN THE CHICAGO POLICLINIC.

Case 1.—William A. V., aged 30 years, an unmarried bookkeeper of German descent, presented himself in my service at the Policlinic April 17, 1890, complaining of numbness and weakness of both hands and of the left leg and foot. Physically he had always been in fair health but for years had drunk to great excess and had been subject to delirium tremens several times. He also used tobacco inordinately, smoking and chewing continually, and was greatly addicted to venery but gave no history or indication of venereal infection. Two weeks previously he first noticed the numbness and weakness mentioned. Coming on gradually it reached during the first week the stage shortly to be described. When first seen the patient was tremulous, uncertain in speech, with dilated pupils and the general manifestations of a prolonged debauch. At this particular time the critical illness of an uncle was making additional demands upon his strength, as he was compelled to watch with him day and night and had lost much sleep. He presented an irritable pulse of one hundred beats, a normal temperature, a fair digestion, an active bowel and was moderately well nourished. His attitude when standing was natural, but he walked with a decided limp, dragging the toe of the left foot, which was advanced and brought to the ground in an uncertain, dangling, flail-like manner, the muscles failing to properly control the ankle-joint. The anterior tibial group of muscles were found completely paralyzed and the other leg muscles weakened. On the anterior surface of the leg there

was a narrow, comparatively anæsthetic area about an inch and a half broad extending from the tibial tuberosity to the ankle. Upon the dorsum of the foot it spread out in a fan shape and embraced the four outer toes. Elsewhere on the lower extremities sensation was fairly normal to all ordinary tests. In the area described he had a subjective feeling of numbness, prickling and sometimes of steady pain. There was tenderness over the head of the fibula and on the dorsum of the foot. Light touches with a pencil or a bit of cotton wool could not be appreciated, but sensation to painful stimulus was not appreciably impaired or the ability to note broad variations in the temperature of objects brought into contact with the skin. The weakness of the foot extensors produced well-marked foot-drop so that the foot could not be voluntarily flexed to a right angle with his leg. The plantar patellar and peroneal reflexes were greatly diminished on this side. Electrical examination of the anterior tibial muscles showed that they had lost faradic excitability and only a very slight contraction could be elicited by the anodal closure of the galvanic current, thus indicating the presence of degenerative nerve changes.

In the upper extremities the grasp was greatly reduced and for the ulnar fingers almost abolished. Commencing near each elbow over the internal, humoral condyle a markedly anæsthetic zone extended along the ulnar border of the forearm embracing exactly the distribution of the internal cutaneous nerve and in the hand the cutaneous distribution of the ulnar. This area was the seat of numbness and of burning sensations, which he described as like the feeling produced by long immersion of the parts in snow followed by exposure to heat. Sometimes there was steady aching and again sharp, darting pains. Over the course of the ulnar nerve marked tenderness to pressure existed. The inner group of forearm muscles reacted feebly to both galvanic and faradic stimulation, anodal and cathodal contractions being nearly equal. Such a degree of paresis was present that marked difficulty was encountered in all delicate or intricate use of the fingers such as buttoning clothing, writing, etc., and strong muscular effort with the hands was impossible.

A diagnosis of alcoholic multiple neuritis was made. Discontinuance of alcohol was firmly insisted upon and for a few days a combination of chloral and bromides was exhibited to control the nervous excitement under which he was laboring. Later massage locally with galvanism and tonics containing a little strychnia caused speedy physical improvement and a steady gain in the direction of the palsy, though some diminution in the bulk of the muscles on the inner side of the forearms appeared and the left anterior tibial group became much wasted. By June 20th, or two months after the first visit, the patient had practically regained the use of his hands, so that he had returned to his clerical employment, and sensation was much improved. In the leg there was still much weakness. In the erect position with the heel upon the floor he could barely raise his toe from the ground but walked without any noticeable limp. A complete and comparatively rapid recovery seemed promising, when the man fell into his old drinking habits and failed to attend the clinic.

Case 2.—Mrs. Mary C., an American widow of 58 years, with six healthy grown children, and who had never had a day's illness in her life, or even a headache, was attacked last April by the prevailing epidemic of influenza. The disorder ran a usual course but was followed within a week of its subsidence by stabbing, darting, burning and severe pains in all four extremities accompanied by great hyperæsthesia with intense itching and scalding sensations. The condition was severest in the hands and feet and did not extend much above the elbows and knees but peculiar sensations along the spine were described. She would complain that she must be lying on some lumpish object, and afterwards there was a sensation of a tumor in the thorax loosely attached to the spine which floated and bumped about as she moved in bed. The attending physician treated her for some weeks, and on numerous lines, but principally with rheumatism in mind. No relief was secured. The days were passed in agony and the nights in torture which morphine did not control. At the end of two weeks the hands and feet were powerless. Subsequently the case went into the hands of Dr. A. E. Hoadley, with whom I saw the patient July 10th last. At that time the severity of the attack had passed, but there was still great weakness of the hands and feet with painful hyperæsthesia. The bedding in contact with the affected area the patient described as feeling "wooly, coarse and like a bundle of rushes." Her stockings felt "as if made of coarse twine and full of knots." She was constantly rubbing and chafing her hands, but in a gentle way, for any pressure or roughness was intolerable. The grasp was greatly reduced and she could with difficulty stand upon her feet. The pricking, burning, itching sensations, though lessened, were hard to endure. The bowels which had been sluggish for many years, had been thoroughly flushed by daily copious injections and now small doses of morphine secured some rest at night, the first she had enjoyed for many weeks. Wrist, plantar and patellar reflexes were absent. There was tenderness over the nerves in the affected area. The finger nails were roughened, scaly and marked by transverse ridges. The skin about the nails and as far as the second phalangeal joints was shiny, red and atrophied. No muscular atrophy was apparent, but the legs were flabby and the forearms somewhat emaciated, pos-

sibly not more than the prolonged confinement to bed might explain.

Electrical examination was not made as a diagnosis of multiple neuritis seemed justified without it. The patient has steadily improved in all respects and is now walking about the house or even going to market, and able to be of some service to herself and her family. She still complains that her shoes seem full of nails and pebbles and her bed of switches, but a quarter or an eighth grain of morphine secures a fair night's rest and a modification of the distressing subjective troubles which with the paresis certainly, though slowly, are growing less. The constipated habit of this woman is notable in this connection. She states that all her life she has been remiss in attention to her bowels often allowing a week, ten days or even a fortnight to pass without securing a passage or even attempting it. This condition may have played an important part possibly in the etiology of the neuritis as it could furnish a general auto-infection or, if you will permit the expression, an auto-sewer gas poisoning, but in accordance with the opinion of foreign and American observers who have reported similar sequelæ of *la grippe*. I am inclined to assign a causal relation to the influenza.

Case 3.—James M., a married Irish teamster, of 50 years, presenting no family or personal history of any interest in this connection, was taken with the grippe Jan. 10th of this year, and was moderately ill for a few days. He recovered apparently, however, and went back to his work feeling comparatively well. On Jan. 18th he felt a weakness and stiffness in the left calf which was worse on the following day. On the third day the other leg was affected and two days afterward he could not stand at all. Weakness in hands and arms promptly appeared so that he could not use his knife and fork, dress himself or exercise any considerable muscular force. The face, tongue and head were in no wise and at no time affected or the control over the bladder and rectum. For another ten days he gradually grew worse but since that time has steadily improved. There was considerable tenderness in the extremities but no great pain and no disagreeable subjective sensations aside from the feeling of powerlessness. In June, at the request of Dr. D. J. Doherty, I first saw the patient and found the disease retreating. He could stand fairly well and with the aid of two canes could walk in a very feeble, uncertain way from one chair to another. The knee jerks, wrist and plantar reflexes were much diminished but undoubtedly present. There was some tenderness over the affected muscle groups and affected nerves, with tendency to wrist and foot drop. The hands showed greatly diminished power and the right hand and left foot were most affected. Later, repeated electrical examination showed diminished reaction to both forms of current but no inversion of the galvanic formula, whilst there was perceptible shrinking of the flexor group of muscles on the right forearm, of the dorsal interossii of the right hand and of the anterior tibial group of the left leg. He is at the present time steadily gaining in every particular and the outlook is good for complete recovery within the next ten months. Little treatment has been employed, but he has had such rubbing and massage as he could give himself with the intelligent assistance of his family and plenty of faradic electricity also applied by himself, serving greatly to entertain him. In this case, as in Case 2, a prolonged search for every source of infection has been negative in result, unless *la grippe*, which suggestively preceded the neuritis be assigned as the cause, and this I am inclined to believe is the fact.

Case 4.—Mr. S., an unmarried merchant of 31 years, was referred to me March 31st, 1890, by Dr. Ferdinand Henrotin. Two months previously he had for a day or two felt a "queer bruised sensation" in the left thumb which passed away in a few days. Shortly afterwards he spent several weeks in Mexico, where he had a number of "chilly, creepy nights," could not keep warm with any amount of clothing, and such nights occurred irregularly up to the time he came under observation. A month before, after getting slightly chilled on a street car, there was numbness in the fingers of both hands which persisted without intermission and spread up the palms, more noticeably in the left hand. This strange feeling was intensified by rubbing, by cold or heat, and was described as the sensation produced by sharp clapping of the hands. Objective sensation was not noticeably impaired, but he found his fingers clumsy and that he could not button his collar or cuffs, without extreme difficulty, manœuvres which require at once much dexterity and some strength when the linen is stiffly laundried. In every other respect the patient seemed to be in perfect health and there was not the slightest indication of any infection, chemical or otherwise. Malaria was suspected, but persistent and careful exhibition of quinine in full doses produced no betterment. Electricity and massage gave no rapid improvement. The peculiar sensations, however, gradually diminished, but in August still persisted to a slight extent. At this time a number of doses of salacin were given for a furuncular outbreak and in forty-eight hours the nerve trouble disappeared and has not returned up to this writing (Oct., 1890). It is therefore possible that a rheumatic condition furnished the background for the very mild neuritis.

Other cases following typhoid fever might be given, and one in the person of a well-known surgeon, in which there was implication of the

musculo-spiral of the left arm, probably due to a pharyngeal abscess which had produced well-marked systemic infection. Such instances, however, fall under the observation of all.

The clinical recognition of the fact that certain palsies are due to alcohol, lead and diphtheria, is of sufficient antiquity, but a knowledge of the anatomy of these conditions is quite recent, and constitutes one of the notable advances in modern neurology. Under the term multiple neuritis have been grouped many forms of paralysis and neurotic derangement formerly most variously distributed, for if a spinal nerve be injured by traumatism or inflammation, such injury will be manifested almost solely by variations in its functional activity correlative to the amount, extent and nature of the morbid condition, and furnishing the widest variety of symptoms. In default of certain knowledge concerning such processes, these symptoms quite naturally were variously interpreted by different observers, with plenty of resulting confusion.

The ability of peripheral nerves to resist the extension of inflammation by contiguity must have attracted the attention of every one who has seen the lumbar plexus dissected by a psoas abscess; but, on the other hand, they are peculiarly susceptible to certain toxic and infective agents, circulating in the blood, which determine in them varying grades, and possibly kinds, of inflammatory action, with a tendency to spread centrifugally along their trajectory to the ultimate filaments. Upon examining nerves so implicated they will be found affected in two general ways: Either the phlogistic activity will be mainly confined to the proper nerve elements, the axis cylinder and the medullary sheath, or it will be interstitial, involving the endo- and peri-neurium; yet all variations between and embracing these extremes are to be encountered. Now as spinal nerves are motor and sensory, it results that variations between complete abolition of both these functions and the slightest impairment of either may result from a neuritis. But they also contain vaso-motor filaments, interference with the function of which gives rise to circulatory and trophic disturbances of greater or less importance. Consequently among the symptoms of this disease, as well remarked by Buzzard in his Harveian Lecture on this subject, "pain is sometimes present and sometimes absent, numbness may be slightly or strongly pronounced, muscular atrophy, which is sometimes conspicuous, may be entirely wanting, whilst the result of electrical examination may vary to a remarkable extent." Impairment of motion or muscular power, however, is in some degree always present. This may be accounted for on the ground that motion requires a more complicated nervous action than sensation—upon which, indeed, it mainly depends. In the lower orders of animal life sensation precedes motion, and throughout the nervous system, as in other fields, the higher and more complicated or widely differentiated the function or apparatus, the more is it susceptible to derangement.

Formerly cases of multiple neuritis, when not attributable to alcohol, lead, diphtheria, gout or rheumatism, were thought to be of spinal origin and sometimes were described as acute ascending myelitis. In 1864 Dumesnil described a case of paralysis presenting lesions of the peripheral nerves upon post-mortem examination, and two years later a second similar instance. The next mention was made by Eichorst in 1876, followed by Joffroy in 1879, Leyden in 1880, Grainger Stewart in 1881 and in 1884 the accumulated information in regard to this condition was ably presented by Buzzard in the Harveian Lecture already mentioned.

The lesions are confined mainly to the ramifications of the nerves and, as a rule, are more pronounced the farther they are removed from the central apparatus. There is a well defined tendency to symmetry, so that both upper or both lower extremities are affected in the same manner. Rarely, and only in cases of long standing, indications of extension to the spinal cord are found. Wherever the affected nerve trunks are superficial or turn about bones they present an intensification of the process, which explains the painful points usually found in such localities. As before indicated, the inflammation has a centrifugal tendency, following the nerve to its ultimate distribution, and even destroying the terminal muscle plaques and other end organs in severe cases, with resulting atrophy of the parts to which they pertain. Practically and histologically the lesion, irrespective of the initial cause, does not vary in any material particular from the degeneration caused by nerve division, and in the progress of the disease regeneration takes an exactly similar course to that presented by divided nerves reunited after the occurrence of degenerative changes; that is to say, repair proceeds from above downward. Obersteiner and Gombault, however, insist that the degeneration due to lead and similar poisoning differs from the traumatic sort in the persistence of the axis cylinder in the peripheral segment.

The causes of multiple neuritis are legion. They are divided by Starr into four groups substantially as follows:

1. Toxic agents, including lead, alcohol, arsenic, bisulphide of carbon, illuminating gas and possibly phosphorus.

2. Infectious agents such as produce diphtheria, variola, typhus, typhoid, malaria, syphilis and tuberculosis. I would include the infection of epidemic influenza and septicæmia in its broadest sense.

3. An epidemic influence in many tropical countries causing an outbreak of multiple neuritis such

as is termed kakké in Japan, and beri-beri in India and Brazil.

4. Cases are attributable with more or less plausibility to gout, rheumatism, exposure to cold and over-exertion, while in some instances no cause can be assigned.

From these brief considerations it is to be readily seen that this disease may present many different clinical aspects. The most diverse symptoms are encountered, inasmuch as any loss of function or perversion of function attributable to spinal nerves may be the leading feature of an individual case. Subjectively the sensory symptoms, which are usually a pronounced feature, vary from slight numbness or strangeness of feeling to the most exquisite hyperæsthesia or absolute anæsthesia. Ordinarily certain areas will be anæsthetic to touch but extremely painful, constituting the *anæsthesia dolorosa* of the pedantic. Sensations of pins and needles, creeping, crawling, burning, tingling, and pains of a tearing, boring, twisting, even lightning-like character are the burden of the patient's incessant complaints. The hands and feet may become so sensitive that the weight of clothing, the contact of the hand, or even a breath of air cannot be tolerated. Over the affected area there is tenderness to pressure almost invariably, and this is greatest where the nerve trunk is readily accessible. There is often lessened ability to recognize temperatures in the affected parts, to locate tactile impressions or to distinguish degrees of pressure. The reflexes subserved by the nerves in question are diminished, or more usually make complete default, and this condition of even the knee-jerk in diphtheritic palsy of the ordinary pharyngeal form is a diagnostic sign of great weight (Gowers). Where the condition is due to alcohol and rarely to other causes, a peculiar mental state is noticed in which the moral sense is notably perverted. Such patients will detail with great particularity long experiences which are absurd and impossible upon their face, and their statements in regard to their own condition are quite unreliable.

As the great rule the distribution of the disease is strangely symmetrical, usually involving the lower extremities below the knees and the upper extremities below the elbows. Though no nerve is exempt, the musculo-spiral in the arm and the anterior tibial in the leg are ordinarily selected, causing wrist-drop and foot-drop by the motor paralysis which is one of the primary and most constant, as well as the most important symptoms. The development of paralysis may extend over a period of two or three days or as many months, usually commencing with feebleness in the legs and aching in the calves, followed shortly by implication of the upper limbs and attended by some or all of the sensory disturbances just mentioned. When the respiratory nerves are involved it constitutes a grave feature, and may rapidly lead to a lethal termination. Depending upon the severity of the attack and the rapidity of its onset, trophic disturbances sooner or later appear. In the area of distribution of the affected nerves there may be profuse sweating, producing a miliary or even bullous eruption and a macerated condition of the integument. The dystrophy is manifest in dryness of the skin with cuticular desquamation, falling of hairs, and roughness or even shedding of the nails. The fingers may present the peculiar erythematous, glossy skin characteristic of nerve injury, and mottling and flushing with alternate paleness of the parts is frequently noticed. The muscles are often flabby and plainly wasted. In uncomplicated cases the sphincters are never affected. Electrical examination may develop the reaction of degeneration, but ordinarily something short of the typical formula is found, and only the slightest modifications or none at all may be detected in mild cases, as is readily explained by considering the anatomical peculiarities of the disease.

Depending upon the severity of the individual case, its cause and the possibility of removing that cause, the course of the disease is from three to twenty months and, except nerves of vital importance are implicated, almost always terminates in recovery, which is usually preceded by a recurrence of the sensory disturbances as the nerves regenerate. In the later stages massage, douching and electrical exercise of the muscles to maintain nourishment and to prevent spastic or position deformity, are all of great value, but must be employed with intelligence and moderation. Any break in the integument must be carefully attended to, as healing is slow and a tendency to ulceration prominent.

It is probable that further study of this interesting but wide group of diseased conditions will result in establishing differential features of importance in classification, prognosis and treatment.

167 Dearborn St., Chicago.

SOME REMARKS ON THE RELIEF OF REMOTE NEUROSES, BY THE RESTORATION OF OCULAR EQUILIBRIUM.

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The subject of ocular insufficiencies and oversufficiencies appears to be one of those crazes that occasionally strike the medical profession with cyclonic force. Like cyclones, these crazes are unexpected in their attacks and frightfully devastating while they last. Their careers are short-lived, but they leave many aching hearts behind

to tell the story of over-credulous patients and over-zealous physicians.

We can learn but little, it is true, without experimentation, but in the name of suffering humanity, there should be some limit placed, beyond which the pitiless drug or knife of the medical man may not leave its mark.

What a multitude of mistakes must be laid to the demon of "reflex" action, who, like a fitful spirit, flits hither and thither in our human anatomy, and ever and anon lays his icy hand upon some one of our organs and claims it for his own. How quickly the medical profession grasps at the hint. Immediately a long chain of diseases is looked upon from a different standpoint. Women are ruthlessly laid upon the operating table and castrated. Children are circumcised; teeth are extracted and noses are cauterized. In short, the abiding place of "reflex neuroses" may be found in any organ of the body, and is liable to an invasion by ignorant zealots. Meanwhile the physician is in a hopeless state of bewilderment. The commonest diseases assume a mysterious appearance, and he fears the presence of the lurking "reflex" behind every muscle, nerve and tissue in the body. It matters not whether a patient complains of his eyes or not, clip, clip go the scissors, and his muscles are severed. It matters not if the child's prepuce utters a note of warning. Off it comes. It matters not whether the woman ever complains of her ovaries. Down she must lie and in a twinkling they are laid on the table beside her, and the surgeon imagines he has achieved a signal triumph, especially if he can show that he has made a great many such operations in a very short space of time.

Why do not physicians conscientiously narrate to us the ultimate results of these cases, upon which they base such wonderful reports? Because they are ashamed to do so! After they have tried them for a time, and the results are finally forced upon them, they simply quietly lay away their hobby and say nothing about their conclusions. But does it teach them a lesson? Unfortunately no! They are ready for the next visionary dream of some over-zealous enthusiast, and are soon deep in the mysteries of the latest "reflex." Where and when will this insane chasing of a will-o-the-wisp cease? How many of the crippled, the maimed, the halt and the blind must be arrayed before us like the ghosts of Richard's victims, before we are contented to inoculate our practice with a little common sense? The answer is as visionary as a "reflex neurosis." But it is to be hoped that the time is not far off; that the day of our salvation and the salvation of our patients is at hand.

One gleam of sunshine I have been able to extract from the general gloom, has helped me over many a dark place. It is this: Never attack an organ, unless that particular organ is causing distinct uneasiness. If an organ is diseased to an extent sufficient to warrant interference, it will usually make its pathological condition evident.

The latest candidate for the approbation of the medical man, is the influence exerted upon the nervous system by insufficiencies and oversufficiencies of the ocular muscles.

The subject of tenotomies for ocular insufficiencies is not a new one. But the subject of graduated tenotomies for ocular insufficiencies, and their effects upon the different organs of the body, is comparatively a new one. Tenotomies have, until recently, meant a complete cutting away of the tendons from the eyeball, and this has referred more particularly—almost exclusively, I may say, to insufficiencies of the internal recti muscles. To Dr. Stevens, of New York, is to be given the credit of having elaborated the subject of graduated tenotomies and advancements, for the relief of reflex and remote diseases, and of having called attention to other varieties of insufficiencies, besides those of the internal recti muscles. To Dr. Stevens must also be given the credit of having systematized this entire subject, and of having given us an exact and intelligent nomenclature. His methods of operating are of the very best, and are of such a nature as to make them valuable to every ophthalmologist. His instruments for operating are as near perfection as can be made, and his phorometer renders the detection of insufficiencies easy and systematic. His claims to cure headaches, head neuralgias, etc., will find sympathy, approbation and acquiescence from all ophthalmologists. But his claim to relieve general chorea, epilepsy, paralysis and other grave and remote neuroses by graduated tenotomies, is so extreme as to warrant the unfavorable verdict rendered by almost the entire profession. His claims were so broad, and his personal statistics so surprising, that it became necessary for the profession either to accept or reject the grounds upon which he stood. Therefore the New York Neurological Society determined to thoroughly and impartially investigate the subject. Accordingly in March, 1887, with the acquiescence of Dr. Stevens, a commission was appointed, consisting of Drs. Seguin, Starr, Birdsall, Moore, Webster, Dana and Foster (the two latter being appointed by Dr. Stevens himself), to consider the value of Dr. Stevens' treatment. This commission was not compelled to bring in a report at any specified date. This was left to themselves. They were requested to bring in their report whenever they had arrived at a conclusion. They were merely asked to consider the subjects of chorea and epilepsy, these being the subjects upon which Dr. Stevens laid the greatest stress, and in which he claims (without, however, substantiating his claims by intelligent statistics) to cure 50 per cent. of all cases submitted to his charge. A preconcerted plan was agreed upon that was

undoubtedly fair to all, by which patients were placed under Dr. Stevens' care, and observations of progress taken from time to time. This plan appears to have been carried out honestly by the members of the commission, although claims to the contrary were advanced by Dr. Stevens. The total number of cases sent to Dr. Stevens for treatment was 28; 23 were epileptics; 5 cases of chronic chorea, and all had some form of insufficiency. Fourteen of these cases withdrew for various causes: 5 were unable to attend regularly; 2 were declined by Dr. Stevens because of organic disease; 5 were withdrawn by mutual consent of the members of the commission sending the cases and Dr. Stevens, for satisfactory reasons, such as non-attendance, etc. Three were discontinued because they grew worse instead of better under the treatment; hence only 14 remained and became available for observation. These cases were under treatment for periods varying from several weeks to thirty months, and the result showed that no cases were cured. One case was much improved, 5 cases improved, 7 cases unimproved, and the result in one case was unknown. From these results it will be seen that six cases were claimed to be improved; three of these cases were from Dr. Stevens' own private practice, and no exact notes of their previous condition were available. In five cases the improvement was very slight; the sixth case was an epileptic who did about as well under Dr. Stevens' treatment as under the bromide treatment. Some of the patients were made worse instead of better, and in some diplopia and vertigo were developed.

Such in brief was the result of the commission appointed in March, 1887, and which reported in November, 1889. Their labors appear to have been carried on in a spirit of honesty and fairness. They declare that inasmuch as Dr. Stevens has utterly failed to achieve the great results he claimed, this method of treatment is not worthy to be classed among the principal agents for the cure of chorea and epilepsy. This appears to have been agreed to by even those members of the commission selected by Dr. Stevens himself; Dr. Dana (one of Dr. Stevens' friends), even going so far as to say, that while when he entered the commission he was prejudiced in favor of this method of treatment, the result of his observations had been to make him lose faith in its efficiency. One remarkable fact is, that Dr. Stevens reports to have cured 50 per cent. of the cases of epilepsy and chorea submitted to him in his own private practice. He further claims that the cures materialized promptly; but the commission reports that no cases were cured, and there were practically only three cases that made even doubtful improvement, and the course of improvement in them all was protracted.

The fact of the matter is, Dr. Stevens appears to be enthusiastic and very zealous in his investigation of this subject, and has arrived at a point where he claims too much and where his claims have no reasonable hope of being sustained by a fair and impartial examination. If he merely advocated the use of this remedy for headaches, head neuralgias, etc., he would have many endorsers, but as it now stands the breadth of his claims is only equaled by the members of the profession who are his open antagonists. Notwithstanding the fact that the commission was appointed with the acquiescence of Dr. Stevens, and that the commission and Dr. Stevens labored together for a period involving two and one-half years, Dr. Stevens, at the meeting in November, 1889, brings in a protest against the reception of this report by the Society. If he did not wish to work with the commission he should have said so at the start; if he wished to object to the method in which the commission was prosecuting its labors he had ample opportunity to do so. But he accepted the cases that were sent to him (with the exception of the fourteen that were rejected), and treated them presumably to the best of his ability, and it would seem as if he should stand by the results. He even has the poor taste to vent his spleen by unjust and personal allusions to the members of the commission, and it is gratifying to learn that such allusions were passed by in dignified silence by the Society, the personal character of the members of the commission being sufficient guarantee against bigoted animosity cutting any figure in its labors. It appears to me that if such neuroses are dependent upon a lack of ocular equilibrium, Dr. Stevens, with the immense labor that he has put upon the subject, the undoubted information he has acquired, and the great skill that he unquestionably possesses, should be able to achieve exact results, and that successful operations, directed against these conditions, should be positive and rapid in their consequences and not protracted and unsuccessful.

For my part I have little faith in graduated tenotomies. I believe that if a muscle is worth tenotomizing at all, the operation should be complete, and that an absolute separation of the tendon from the eyeball should be brought about. In Dr. Stevens' method the tendon is picked up by a pair of fine forceps and the middle fibres are cut, leaving the two lateral margins of the tendon intact; this looks well in theory, but according to my observation does not materialize in practice. The fibres that are cut are supposed to fall back and become attached to the globe at another point. I do not believe that this is the case. I believe that the fibres fall back during the operation, but in a short time thereafter, in the course of healing and cicatrization, the fibres pull back to their original place of attachment. This statement I have repeatedly verified by observations upon the human being and animals, by first making graduated tenotomies, and, after a while, re-

opening the conjunctiva and carefully observing the condition of affairs. Dr. Stevens himself, I understand, sometimes finds it necessary to repeat this operation from fifteen to twenty times on a single person. If this is the case, and some of his cases are under observation for two and one-half years without achieving decided results, it would appear to me that the operation should be condemned and a search made for some new remedy. I believe there is a great deal of nonsense in the subject of ocular insufficiencies and tenotomies, when presented in its most favorable aspect, and it appears to me that almost all of the hundreds of cases that I have examined by Dr. Stevens' phorometer have had some varieties of muscular insufficiency. To summarize then: I believe that errors of refraction and ocular insufficiencies are a fruitful source of headaches, head neuralgia and other neuroses, situated in and about the eyes and head. I believe that such diseases can be remedied by the proper adjustment of glasses and by proper tenotomies. But I do not believe that chorea, epilepsy and other remote neuroses are produced by errors of refraction or by muscular insufficiencies, except as such abnormalities indirectly cause an impairment of the general health, which might in its turn present a favorable soil for the growth of the various neuroses. I have but little faith in graduated tenotomies, and believe that if a tenotomy is indicated at all, the complete operation is necessary.

THE CLINIC.

A CASE OF NEPHRORRHAPHY.

A Clinical Lecture delivered at the Jefferson Medical College, Philadelphia.

BY W. W. KEEN, M.D.,
PROFESSOR OF SURGERY.

The case I shall show you to-day is rare. It is a case of floating kidney, and I propose to sew it fast to the loin. The patient is a young woman, 31 years old, who was brought to me by Dr. Coleman. Her history is briefly this: Five years ago, while reaching for a package of goods upon a high shelf, she suddenly felt something give way in the right lumbar region and also, as she clearly remembers, heard a distinct snap. She almost fell from the weakness caused by the shock, the package fell to the floor, and she was unable to lift it again because of the pain induced by the effort. From that time to this she has always felt it a labor to lift even comparatively light weights, because of pain in the region of the right kidney, shooting into the groin and thigh of that side. For the last three years she has been practically an invalid. With this there has been at times disturbance of the urinary function, the urine now and then becoming scanty and high colored, but never, as far as observed, containing albumen. Beside this there have been occasionally very marked digestive disturbances, such as diarrhœa, nausea and anorexia. Menstruation is affected but little, but she has thought that at such times and occasionally during the intervals there has been some enlargement of the tumor, which made its appearance after her accident five years ago. If she lies upon her left side, this lump falls with a "thud" to a lower position upon the left side of the abdomen. At the internal border of the tumor I can distinctly feel the pulsation of a large artery, presumably the renal. By a slight manipulation the mass can be pressed forward, and it then falls below the umbilicus and to the left of the middle line. It is like a ship at anchor which swings with the tide to the limit of its hawser. The size of the tumor corresponds to that of the kidney. Its shape is approximately renal but the hilum cannot be distinctly made out. Again, percussion over the right renal region gives a certain amount of resonance, not perfectly clear, but distinctly different from that upon the left side; and there is also a sense of diminished resistance. My colleagues, Profs. Brinton and Parvin, have examined the patient and concurred in my diagnosis.

The kidney is subject to two forms of mobility, which should be carefully distinguished: 1. The moveable kidney, which, while surrounded by its fatty envelope, is to a certain extent moveable in the space behind the peritoneum; 2. The floating kidney, which is provided with a more or less complete meso-nephron, that is a reflexion of peritoneum analogous to the mesentery and meso-colon. A simple moveable kidney may become in time a floating kidney by gradually pushing before it a process of the peritoneum, as does the testis in its descent. Mr. J. Grieg Smith says that the condition is always congenital, but I cannot believe this, for in almost all cases that we see there is a clear history of recent discovery of the tumor, and in very many of an accident to which it is reasonably attributed.

If a patient come to you with such a trouble, what are the means of diagnosis? In nine cases out of ten the patient is a woman, and in nine cases out of ten it is on the right side. Rarely it is the left kidney, and still more rarely both are moveable. Occasionally the patient is a man. moreover, you will find a tumor that can be freely pressed into various regions such as the loin, the umbilical or hypogastric region; you may be able to make out the kidney shape and feel the hilum and possibly the renal artery pulsating, as I can distinctly feel in this case. You will then examine the loin by percussion and by bimanual palpation. But these tests may lead you to a false diagnosis. Three of us have examined this case with care and are reasonably sure of our conclusions; but it is possible we may have mistaken

for a moveable or floating kidney a tumor of the ovary, a uterine myoma with a long pedicle, an omental tumor, a tumor of the pancreas, or even a mass of impacted feces, and it may be that the facts will not bear out our opinion. If this be the case, I shall close the lumbar wound and immediately do a laparotomy, for there is in this case also in Douglas' pouch a prolapsed and painful ovary, which undoubtedly causes much of her suffering. Even if there is a floating kidney, a later laparotomy may be required to extirpate the ovary.

In most cases, if there are no symptoms, let the patient alone, or be satisfied to apply an appropriate bandage and pad.

Dr. Thompson S. Westcott has lately investigated for me the literature of this operation, nephrorrhaphy, and he finds there are recorded over a hundred operations with only two or three deaths.[1] One of these fatal results occurred in a case operated upon by Ceccherelli, and can be directly charged to the operation, as sutures were carried around the twelfth rib and the pleura was opened, the patient dying of pleurisy within three days. Hahn, of Berlin, reports one fatal case in twenty of his own operations. Mr. Lawson Tait has performed the operation three times, and, contrary to the testimony of all other surgeons, condemns it as useless. One of his patients died long after leaving his care, as he believed from suppuration due to the operation. To allow a floating kidney to remain without operation is by no means devoid of danger. The kidney which I showed you last week, removed from a case of hydronephrosis with abdominal urinary fistula, I believe to have been originally a floating kidney in which hydronephrosis was developed. Besides this not infrequent result, a floating kidney, as you see by this case, is a source of constant discomfort and ill health in many cases. If you find the physical signs are those of a large cyst of the kidney, the organ should be removed.

Shall I here perform a nephrectomy? This operation has been done a number of times for floating kidney and I think most unjustifiably. Nephrectomy for a floating kidney otherwise healthy is entirely unjustifiable. Nephrorrhaphy should always first be attempted. If the operation is unsuccessful and the health is still impaired, then, and then only, should the far more dangerous operation of nephrectomy be done. The patient is placed upon her left side with a good-sized pillow under the lower ribs, so as to increase the space between the twelfth rib and the crest of the ilium on the right side. The incision is midway between the last rib and the iliac crest over the edge of the quadratus lumborum, the same incision as is usually made for nephrectomy or colotomy. I shall cut down until I expose the transversalis fascia at the edge of the quadratus, and then by opening the fascia I shall come directly upon the perinephric fat, which I shall then tear. I shall use silk sutures as catgut is too quickly absorbed. The question how I shall pass the sutures is important. Hahn, of Berlin, who proposed and first practiced this operation in 1881, at first passed his sutures only through the perinephric fat, and partial failure resulted in at least one of his cases. Again it has been recommended to pass the sutures through the fibrous capsule of the kidney, but this is very liable to tear, and failure has occurred after this procedure. I propose to pass my needle, as I have done in two other cases with admirable success, through the substance of the kidney itself and sew the organ fast to the lumbar aponeurosis, and then leave the wound open to granulate and thus insure a strong broad cicatrix. I would speak particularly of the importance of not pressing back the kidney into place until you are ready to grasp it; for in my last case, having found the organ and entrusted it to an assistant to hold in place, I cut down and came upon what I had every reason to believe was the kidney, but in reality was the liver, which lies close above the wound. The kidney had slipped out of place. The peritoneum was of course opened. I finally hooked up the kidney and made it do duty in closing the peritoneal wound. The case did perfectly well. I saw the patient a few days ago in perfect health, and she expressed herself as delighted with the result. It is surprising how rapidly the wound in the loin closes. In the last case referred to I put in several loose stitches intending to tighten them the next day, and I was surprised to find at the first dressing in twenty-four hours an even surface and the wound nearly closed.

I am now down to the perinephric fat, which I open, and in the light of the previous case to which I have just referred, it is important to know how to distinguish kidney from liver. I have thought over this not a little. The point usually made is that the liver moves with the diaphragm in respiration, while the kidney is fixed. But in these cases where the kidney has such excessive mobility, this rule is useless. Sometimes you can get your finger around and feel the whole contour, and especially the upper border of the kidney; but in my last case the kidney was in the pelvis. The color may give you some help. The kidney is dark-bluish in color, while the liver is more of a dark mahogany red. Manipulation will displace a floating kidney but not the liver. I shall now proceed to tear through the perinephric fat. The condition of mobility has been said to be due to absorption of the perinephric fat, but in this and my two preceding cases I have found no deficiency of fat. This operation is much more difficult than exposing a normally placed kidney. The mobility of this kidney is in marked contrast to the slow rhythmic

[1] Annals of Surgery, August, 1890.

respiratory movement of the liver, which I can now perceive through the peritoneum. The kidney slips suddenly out of sight and reach, and I can bring it back to view by guiding the abdominal tumor, so that I have no doubt of having the kidney. I now harpoon it by a tenaculum, draw it into view and hold it securely with a volsella. The movement of my fingers round the organ, instead of doing harm will do good, for it will excite some inflammation that will help further to fasten it in place. I now examine to find out whether the kidney is healthy or not. No disease is apparent to sight or touch, hence I shall not remove it. Now for the sutures. I take a half curved needle threaded with sterilized silk thread, and pass the stitch through both edges of the upper angle of the wound in the fascia and in passing from one edge to the other through the kidney substance about half an inch deep. Another is passed in a similar way at the lower angle, and four additional stitches, two anteriorly and two posteriorly, through only one lip of the wound and then through the parenchyma of the kidney, complete the fastening. Each stitch is followed by a little bleeding—surprisingly little. I shall put in two stitches through the edges of the large wound to tighten up to-morrow if I so desire, but I shall leave the wound open so as to get a good thickness of cicatricial tissue, just as I would do in case of radical cure of hernia.

[NOTE.—The patient's temperature only rose 0.2° after the operation, and except considerable pain in the right groin and hip, she made an excellent recovery from the operation. The permanent result can only be known at least a year later.]

MEDICAL PROGRESS.

ELECTRO-PUNCTURE OF AN AORTIC ANEURISM.—TILLMANNS presented to the German Surgical Congress (*Centralblatt für Chirurgie*) a patient upon whom this operation had been performed. The aneurism appeared in 1885, but grew rapidly after the patient lifted a heavy weight in 1888. He complained of dizziness, anxiety, palpitation, sleeplessness, and especially of a severe pain under the right shoulder blade, and in the right arm. A small soft, pulsating tumor presented itself in the second intercostal space at the right border of the sternum. From April 17 to July 9, thirteen electro-punctures were made, under strict antiseptic precautions and with local anæsthesia, a long steel needle connected with the positive pole was carried about 5 centimetres into the sac, while the positive pole, connected with an ordinary metal electrode, was placed upon the surface near the tumor. Each sitting lasted from five to ten minutes, with a current strength of from 10 to 20 milliampères. If the current is too great (30 milliampères) the needle may become heated, and so burn the skin, which should, if possible, be avoided. To prevent pain and carefully regulate the current, a water rheostat should be placed in the current. After each application the patient was placed in bed and an ice bladder applied over the tumor. After the eighth puncture the patient was allowed to return to his home; with the thirteenth the treatment ended. The results were excellent, and nearly two years after the operation the patient reported that all subjective trouble had disappeared. The pulsating tumor of the breast, covered with thin skin, has grown firmer and shrunken, and can now scarcely be seen. He is not completely cured, however, as deep pulsation can still be felt.

Tillmanns has employed electro-puncture in a second case, with an aneurism the size of a man's head. Some time after the sixth puncture the patient died from rupture of the sac. Here, as in the other case, improvement was noted from the punctures, the outer portion of the tumor becoming firmer.

In these cases the literature teaches that a cure is only rarely reached by electro-puncture, though results are more favorable the earlier the treatment is begun—commonly, however, it is only palliative, and often useless.

THE GALVANO CAUTERY IN PURULENT OPHTHALMIA.—Purulent ophthalmia, when seen sufficiently early and before any ulceration of the cornea has had time to develop, will generally give way before the usual lotions and mild cauterization with nitrate of silver. The outlook may, however, be different when these cases are seen late, and when more or less extensive ulceration of the cornea has been set up; for their vision may be seriously threatened, if even the organ should escape total destruction. It is in such cases as these that M. ABADIE has reaped admirable results from the use of the galvano-cautery. For instance, a lad of 20 came amongst the out-patients with his eyes in a lamentable condition, the result of gonorrhœal contagion. There was a history of three weeks' duration of this state of things. Both corneæ were extensively ulcerated, and so deeply that the anterior chambers were invaded, while even the iris had not escaped, but was infiltrated, and had the appearance of being covered with a greyish membrane. The conjunctivæ and eyelids generally were so involved that it was with difficulty the latter could be everted. The case being considered desperate, it was deemed useless to pursue the routine treatment. Rapid arrest of the destructive process was attempted by means of the galvano-cautery, which was freely applied to the suppurating surfaces, while the milder cauterization by silver nitrate was repeated twice daily. Eserine drops as well as iodoform

insufflations were from time to time had recourse to, while boric acid lotions were frequently applied. This was the sum of the treatment which was vigorously kept going for five consecutive days. At the end of this time quite a transformation was effected. The eyelids could be opened freely, the sclerotic was assuming a normal aspect, while the corneal defect was being rapidly repaired and the anterior chamber closed in. Then after three months of further application of spray douches, the two corneæ had become so far transparent that a double iridectomy was undertaken, after recovery from which the patient was able to read average print, and has since resumed his occupation of stone-mason. Another case was that of a man 58 years of age, who contracted a purulent ophthalmia which owned a similar cause to the foregoing, but who presented himself the third day afterwards for advice. He was ordered the silver nitrate treatment for eight days, at the end of which time his eyes appeared out of danger. Milder lotions were substituted, but the patient, feeling himself, as he thought, altogether cured, was remiss in his attention to instructions, with the result that the whole mischief was rekindled, if anything more intensely than before, for the discharge became very abundant. This time, however, the application of silver nitrate was powerless to prevent the development of an extensive corneal ulceration, which progressed with such rapidity that the urgency for more energetic measures was evident if the cornea was to be saved from destruction. The galvano-cautery was therefore applied for four days in succession, while the nitrate of silver and iodoform applications were kept up as in the previous case. Eserine was not used, as the anterior chamber was not here involved. In six days the ulceration was no longer visible. The patient is still under observation and the douche treatment. The cornea, which was saved from perforation, is opaque at the borders, but the centre is perfectly transparent, and vision is relatively good. The advantages of the galvano-cautery have already been shown in the treatment of perforating ulcers with hypopyon. The method of Sæmisch may be with advantage replaced by the cauterization of the ulcerated surface by penetrating with the galvano-cautery through the centre of the ulcer to the anterior chamber, and thereby readily liberating the hypopyon. In conclusion, it is claimed for the galvano-cautery, combined with the application of a 2 to 3 per cent. solution of silver nitrate, that it is quite possible to cure all forms of purulent ophthalmia, whatever may be their gravity, and that even in cases where the cornea may be seriously involved, and where, under older views and methods, it would be deemed as irrevocably lost.—*Lancet.*

A NEW DISEASE OF THE BREAST.—SCHIMMELBUSCH (*Centralblatt für Chirurgie*) speaks of a peculiar disease of the female breast, that has been as yet but little observed in Germany. The disease has been described in France by Reclus under the name *maladie kystique*, and by Rorsnig in Denmark as *multiple cysten*. Von Bergmann during the past year has seen three cases of this kind. In all of them both breasts were equally affected, the skin over them was movable, but the gland tissue proper presented a number of hardened masses that felt exactly like small stones contained in a sack. Anatomically these masses are found to be hardened gland tissue that has undergone cystic degeneration. The tumor is a cyst-adenoma; the acini soften, become cystic, and by confluence present larger spaces. The tumor is purely epithelial, and presents a very different condition from that in cysto-sarcoma and chronic mastitis, in which the interstitial tissue plays the principal part.

AMŒBOID MOVEMENTS IN THE RED BLOOD CORPUSCLES OF ANÆMIC PERSONS.—BROWICZ (*Centralblatt für Klin. Med.*) claims to have discovered striking movements in the blood of anæmic patients. He has observed the phenomena so far in four cases: one of pernicious and one of simple anæmia, a third of septicæmia, and a fourth case of cancerous cachexia. The blood was observed in a fresh state upon a simple glass slide, and under an ordinary cover-glass. No special arrangements were needed for keeping the blood warm, as the movements would continue for hours, if the preparation was not allowed to dry. A power of 600 diameters was used.

It seems that Hayem has observed similar movements, but referred them to some parasitic infection of the blood, but Browicz regards them as a sort of Brownian movement, dependent upon some change in the chemical structure of corpuscles or plasma. That this explanation is probably correct he infers from the fact that the movements often continue for days, at an ordinary temperature, and long after the white corpuscles in the same preparation are lifeless. This he holds to be inconsistent with the known range of vital action in protoplasm.

EARLY DIAGNOSIS OF CANCER OF THE UTERUS.—DR. T. A. REAMY, in a recent clinical lecture, spoke very interestingly on the subject of the "Early Diagnosis of Cancer of the Uterus." He said: I have had exceptional cases at 22 and 23 years of age, but if the patient is beyond 30, or if she has had children or miscarriages, insist on an examination, and see if she may not have carcinoma in the first degree. Hæmorrhage and wasting discharge are the early symptoms. Do not wait for pain and the characteristic odor, the cachexia or pallor. Do not wait especially for odor and pain. Make a digital examination.

You can generally detect a roughness or breaking down of tissue, and then a visual examination by the speculum should be made. We may find ectropion and may be degeneration, and think we have cancer, when we have not. If, in operating for a lacerated cervix, we find suspicious looking tissue, cut it away, for if the tissue is not an epithelial growth it is next door to it, and should come away. The importance of the early diagnosis of cancer of the uterus, is emphasized by the fact that two-thirds of my 150 cases per annum, which come under my care, have advanced so far, one-half of them even before they come under the care of the family physician, as to make a possible cure by operative proceedings very doubtful. Why is the early diagnosis of this disease so frequent? For the reason that the real cause of cancer is not known. It is, nevertheless, true that with the exception of one single authority of prominence, Sir James Paget, so far as I am acquainted with the opinions of authors, all agree in the belief that cancer is primarily a local disease. There is very probable predisposition in constitutions, tissue inheritance, yet the consensus of opinion is that cancer is a local disease.

The early diagnosis of cancer is one of the most important points in the practice of our art. Its importance cannot be overestimated. If we are to do anything we can do it with so much more hope of success if done early. Many of the cases met in hospital practice are so far advanced in the disease before they seek the advice of the surgeon, and the operation is consequently more extensive and attended by more danger than if an early diagnosis had been made and surgical treatment employed. He had been on duty at the Good Samaritan Hospital for eighteen years, and the number of cases which came to him there early enough was very small indeed. Medical treatment amounts to nothing. Surgical treatment if employed early may save, so hence this is the only treatment worthy of consideration. This woman gives a history of prolonged menstruation. Whenever a woman comes to you between the ages of 35 and 50 years, and tells you that she is menstruating too freely, too long, or at intermenstrual periods, do not give way to the popular opinion that the woman is suffering from the change of life. The irregularity in menstruation, which signals the approach of the menopause, is that the woman will miss a period or two and not have too frequent or excessive menstruation. This woman menstruated too freely, then had an occasional show at intermenstrual period.

It cannot be said that much progress has been made during the past forty years as regards the recognition of fully developed cancer. Bennett's monograph on "Cancerous and Cancroid Growths," published in 1849, shows a pretty thorough knowledge of the subject under consideration. He says: "The microscope alone, and independently of all other kinds of observation, can seldom determine the presence or absence of cancer." With regard to the microscopical diagnosis of cancer, we have not improved very much over Bennett. This distinguished author was also well up on other points for his day. He says, in regard to the local origin of cancer: "A cancerous growth is for some time purely local. In this indolent state a tumor may often be exercised and permanently eradicated. Even when the growth has become moderately cancerous, ablation is said to have been occasionally followed by success." "There was a time," says this author, "when phthisis was thought to be necessarily fatal. Morbid anatomy has expelled that error, as it will doubtless do regarding cancer."

At the present time, however, surgeons generally unite careful microscopical examination of the structures in a suspected case with the clinical study and microscopical appearances, thus recognizing the malignant character of tumors much earlier than formerly. Here lies one of the most important advances. It points the way to extirpation of the growth in its earlier stages, while it is yet local; thus largely increasing the chances of cure. Virchow's experience with the Emperor Frederick shows how difficult it is sometimes for the most experienced pathologist to give a positive opinion regarding the malignancy of a growth, especially when so located as to permit of the removal of a very small portion for microscopical examination. However, our knowledge of cancer, especially cancer of the uterus and the breast, has been much extended during the past ten years. Surgeons have also learned to distinguish more accurately operable and inoperable cases, and thus save the patient from severe, useless, and dangerous operations. These conservative results, derived from our knowledge, are next in importance to the cure of disease by early operation. It is no small matter to save a surgeon from a surgical operation which could do no good. The benign affections of the cervix uteri which may be confounded with the malignant are chronic inflammation, endometrial inflammation with its results, erosions, granular degenerations, ectropium. — Cincinnati Letter, *Times and Register*.

TREATMENT OF TUBERCULAR JOINTS AND ABSCESSES BY INJECTIONS OF IODOFORM.—BRUNS, before the German Surgical Congress (*Centralblatt für Chirurgie*), recommended the injection of iodoform into cold abscess and tubercular joints. The foundation of the treatment, he thought, lay in the known power of iodoform over tubercular granulations. The iodoform was used in the form of an emulsion in glycerine or olive oil, one

part to ten or twenty. The preparation is carefully sterilized before each injection. After weeks or months the abscess becomes smaller, and in from two to four months completely disappears. In Brun's clinic one hundred cold abscesses have been treated in this manner, and 80 per cent. have been cured. Of these, ten have been cases of burrowing abscess from caries of the vertebræ, in which a permanent cure resulted, so that Bruns believes that the caries itself has been healed. The treatment is also recommended in tubercular empyema.

Similar good results were obtained in the treatment of tubercular joint affections, as the writer demonstrated in over fifty cases. In parenchymatous synovitis or capsular fungus, a hollow needle is passed into the joint and from one-half to three drachms of the emulsion forcibly injected. If the abscess is in the neighborhood of, or has broken into a joint, then the cavities should be emptied and so much of the emulsion injected as will just distend the abscess cavity or the joint. Fixation of the joint is only necessary when considerable pain has been caused by the injection; the rule is that it subsides rapidly, and the patient may be allowed carefully to use the joint. The parenchymatous injections should be made as often as once in eight days, while in the cases of enlarged joint cavity, or peri-articular abscess, each two to four weeks is sufficient. The first sign of improvement—lessening of the pain—is not to be looked for under six or eight weeks, the swelling decreases after the first injection and at last completely disappears. Peri-articular abscesses shrink to small knots that cause no further trouble. Motion in the joint may be partially, or indeed, fully restored. In severe cases and old people, a complete recovery is not to be looked for, though here we can expect a diminution of pain, swelling and improved use. The author recommends the operation because of its simplicity, adaptability, results, and freedom from danger.

In the discussion Heusner said that in the past four or five years he had treated numerous cases in this way, with excellent results. He specially mentioned a woman with tuberculosis of the wrist joint which was cured by ten injections.

Trendelenburg had treated 135 cases in this way. Results were various, but in 68 per cent. of the cases it could be said to have had a marked influence upon the disease, though cure was not an invariable result. The wrist seemed favorably affected more frequently than other joints. He also used the method in tuberculosis of the soft parts, lymphatic glands, testicles, etc. Several injections into the lungs had also been made.

Riedel enquired what relation a sequestrum had to the treatment. He was answered by Krause that frequently spondylitis healed under this treatment, notwithstanding the presence of a sequestrum. Heusner said that in the cured cases no changes remained, while in those that were not affected the disease remained as it was before treatment. The case of the woman with the tuberculous wrist had originally been set down for amputation.

THE USE OF HYPODERMIC INJECTIONS OF CAFFEINE IN THE TREATMENT OF POST-PARTUM HÆMORRHAGE.—DR. MISRACHI highly recommends the use of injections of caffeine in cases of post-partum hæmorrhages where rapid assistance is necessary, and especially when the physician first reaches the case after there has been already considerable hæmorrhage (*Centralblatt für Gynäkologie*, No. 27, 1890). Especially in country practice this remedy may be of great value, particularly as it is possible for the physician to have under his care cases of diphtheria or erysipelas, and to have been unable to produce such complete disinfection as would warrant the insertion of the hand. According to the author, caffeine acts more rapidly than ergot, and produces a more effective result even than ether, although the latter is a more rapid stimulant. He administered it in the form of a solution, of which a hypodermic syringeful would contain four grains of caffeine, and gave three or four injections at once,—in other words, injects hypodermically about sixteen grains of caffeine. He employs caffeine, rendered soluble by the benzoate of sodium, equal parts of each being dissolved in warm water. The author claims that this remedy so employed produces most remarkable results in arresting bleeding and in acting as a stimulant, and that, therefore, benzoate of sodium and caffeine in small packets should always be carried by country practitioners.—*Therapeutical Gazette.*

THE FLAGELLA OF BACTERIA.—LÖFFLER (*Centralblatt für Bakteriologie*) has succeeded in obtaining a special stain for flagella. He employs a special mordant after attaching the bacteria to a cover-glass by drying. The mordant fixes the coloring matters, fuchsin or methylriolett, in these extremely delicate structures. He has found that the bacillus of cholera and many other forms have but a single flagellum, while a large number are bunched at the end of the spirilla and the micrococcus agilis. Some are not found at the end of the bacillus, but seem to pass out from all parts of the body, as was found in the case of the typhoid bacillus. The number of these structures varied greatly in the same species, from which the writer concludes that they are very delicate, and easily washed away.

PLENCKII's solution for cauterizing condylomata: Hydrarg. chlor. corros., aluminis, cerussæ, camphoræ, alcohol, aceti vini, equal parts.

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KOCH, VIRCHOW AND TAIT.

At the Tenth International Congress, when the great bacteriologist appeared amid salvos of applause, it was said that the spirit of skepticism seemed also to be there to mock his arguments. There was likewise a consciousness that the controversy of the age was looming up, but that so far it had been only one-sided. None, however, were present who doubted the sincerity of the new prophet, who was there to acquit himself not without honor even in his own country. He may not quite have come up to the expectation of presenting an infinity of unknown truth, but he could not justly be said to have failed in his logic, even though disposed to prove too much. There was no dearth of illustration and no poverty of facts. Against KOCH was VIRCHOW, the biological champion, startled, perhaps nettled, yet still generous, but not to the verge of abandonment of long cherished doctrines. From without there also came an echo from MR. LAWSON TAIT, surgeon and controversialist, that if ever he got together enough bacteria to make a poultice, he would slap it on the next wound he had to dress. Tait cares nothing for glamor, or we might hesitate to credit this statement as having been made in all soberness.

All these are workers of honorable purpose and dauntless spirit, who have made additions to our knowledge, and despite their over-zeal have deserved well of their generation. Each one of them has furnished aids to diagnosis and suggested many approaches to perfection in hygiene. LISTER, too, with his practical mind, has at the very least taught us the necessity of attention to the details of cleanliness. His methods, now much simpler, may at first have been overloaded with ceremony, but this may have been essential for the enforcement of his doctrine. Nature, at all events, has been given a clearer field.

It is quite in keeping with our mental requirements that in studying species with their environments, we desire to be informed of their offices. To succeed in this we must dwell in the microcosm itself, just as in the greater world, we learn the flora by frequent excursions. Difficulties particularly beset the microscopist, bewildered as he is by numbers and limited to the study of forces, rather than of functions. He subconsciously deals with analogies, and drifts to insufficient conclusions by reason of marshalling his facts in a one-sided way. All minds, however, have this temptation.

Now, how stands the question? Many investigators are at work along other lines than those adopted by Koch, mainly in the search after the various microbes to be found in the healthy mucous cavities. BESSER, of Vienna, and STERNBERG, of our own country, have discovered many duplicates in the respiratory surfaces, quite enough to establish the ubiquity of these unseen enemies. But of course this is no argument in favor of their harmlessness, since their power is resident in their multitude, not venomous *per se*, but generators of other poisons. These forms follow the same law as the animal cell, both, according to Virchow, being to the other implacable foes, in that their immunity from extinction is due to their rapid, vigorous and constant reduplication. The conflict is likely to be eternal, and no culture-field is to be barren of its proper verdure. May we not as well state it at once, that as in the movement of nations, the soil invites and the tribes flourish because of the ease of living.

Koch claims that much of the study has not gone forward because of the obstacles in the way of the methods now in vogue. But as some have asked, have we yet struck the right trail—have we not been more picturesque than anxious; have we not been rejoicing over a newborn idea and been too much swayed by our hopes? Have we not been expecting that all forces will yet be found vested with form—not so much individuals but atoms—and atoms of a peculiarly vindictive

spirit, at once powerful and prolific. Clearly all this is against the economy of nature.

In the relation of the microbe to disease, there is a somewhat dominant suspicion of circumstantial evidence—a confounding of cause with consequence, or, as might be averred, an inability to discriminate between enemy and missionary. Perhaps, as some claim, these germs may constitute a phase of universal law, and may be merely products of a congenial soil; seeds which have sprouted only because they did not fall on stony ground. Patient observation may yet wring out the secret, possibly in the near future, but to our present ken a discovery of yet greater grandeur is to come. Meanwhile all hail to Koch, who first lifted the veil.

THE TEACHING OF ANATOMY.

This subject received considerable attention at the recent meeting of the British Medical Association. MR. LAWSON TAIT, in his Address in Surgery, paid his respects to it in his usual vivacious and somewhat reckless style, and it received full attention in the Section of Anatomy and Physiology.

Mr. Tait's strictures upon the prevailing methods of anatomical teaching were mainly bestowed upon two points—needless attention to details, and what he characterized as "that senseless system of biological training which has set in as a fashion at Cambridge, at Oxford, and at Edinburgh." In regard to the first point, the waste of time spent on details that are of no practical use to the physician, there are probably few who will not to a certain extent agree with him. One of the illustrations which he uses is perhaps even better than he was aware. "I remember," he says, "that we had to learn that the anterior cavern of the fourth ventricle of the brain ran a course which was backwards, outwards, downwards, forwards and inwards, and we were enabled in the most improper way to remember these unimportant facts by the word 'bodfi.' Has 'bodfi' ever served any of you at the bedside? Is there any conceivable condition of human accident in which 'bodfi' could assist you to relieve your patient?" Leaving aside, for the present, the question of the possible utility of a knowledge of the cavities of the brain, in regard to which there might, perhaps, be room for difference of opinion, it is evident that the instruction resulted, in this case, in a mere memory of words, without any clear idea of the things described, which can only be a delusion and a snare to anyone who depends upon it. The description which he quotes does not apply to any portion of the fourth ventricle, and is evidently intended for the descending course of the lateral ventricle. But whatever may be thought of the aptness of the illustration, there can be no doubt that medical students are often compelled to spend a great deal of time in committing to memory facts which, as taught, have no interest for them, which they will never use in practice, and which they will proceed to forget as soon as possible after passing their examination.

Without a definite knowledge of the manner and extent of biological teaching at the universities mentioned, it would, perhaps, be unsafe to express an opinion as to the justice of Mr. Tait's criticisms on this point. It is safe, however, to say that a system of instruction which aims merely at teaching the student those things for which he will have practical use will never supply the best training, even from the utilitarian point of view, and this for several reasons. In the first place, it is impossible to foresee just what knowledge may be available. In the second place, isolated facts are less easily remembered than when they are studied in their connections with each other, which can only become clear by a comprehensive knowledge of the subject. Finally, and most important of all, it is only the cultivation of a scientific habit of mind that can deliver the physician from the danger of falling into a routine of empiricism. On this point there was a happy unanimity in the debate above referred to in the Anatomical and Physiological Section. Nearly all the speakers emphasized the importance of teaching anatomy as a science, as well as in its practical applications.

We incline to think that a defect in much of the anatomical teaching of the past has been a failure on the part of teachers to appreciate the difference between their office and that of an anatomical treatise. The teacher should know all that is in the text book and more, but to tell his students all that he knows is a fatal defect. It is far better for him not to know all about his subject than not to know what to emphasize and what to pass over in his teaching. Above all, he should bear

in mind that his teaching is of use only as it imparts to his students a clear comprehension of the structure of the human body. No amount of familiarity with text books, or even with his own lectures will serve them instead of this, and probably few will ever reproach him in after life for having given them too much of it.

HEALTH OF EUROPEANS IN EAST AFRICA.

Surgeon Kohlstock, of the German contingent now occupying the tropical possessions of that nation in East Africa, has issued a timely and rational note of warning regarding the risks to health sustained by some of those Europeans he has met in that part of the world. As director of the sanitary arrangements at the German headquarters, near Saadani, he has had an excellent opportunity to form opinions and to note results, which together with the sense of responsibility that impels him to give them to the world is, in no small measure, a guarantee of the care with which he has collected his facts and made his deductions. His first warning is in regard to intending colonists and traders: "Let no one," he says, "think of settling in East Africa who has phthisis in any stage, even the pre-tubercular, if he does not want to leave his bones in its soil." At first, this point of danger was not recognized in the Fatherland, and the inspecting work of medical officers, in the case of those setting out as colonizing parties was carried out in a somewhat perfunctory fashion. But the climatic influences of the region soon made their effects apparent, and nine subalterns were among those who had to be sent home—precisely those in whose families pulmonary phthisis had existed. For a man of thoroughly sound physique, the two diseases to be dreaded were dysentery and malarial fever. The former, according to the experience of Dr. Kohlstock, responds satisfactorily to the measures usually observed at the various European centres in the East, the disease, among the German troops, ordinarily running as favorable a course as in British and French garrisons. The fever is dangerous only when the patient is precluded from taking rest and is compelled to continue at his work as, for instance, on necessarily forced marches. As a general rule, the malarial patient who can rest soon gets well. If the case is stubborn, the patient must be transferred to the sanitarium, upon higher ground and back from the coast. A liberal allowance of fresh butcher's meat has been found to be the most efficacious diet in malarial troubles, and indeed, the risks arising from them have been greatly reduced by the excellent nursing and accommodation now available to most of the patients. Dr. Kohlstock regards it a mistaken practice to entirely cut off the resident's supply of alcoholic drink, as a precaution against malarial invasion; he prefers that the East African German should, within the limits of moderation and temperance, live as nearly as possible as he did at home.

These observations merit the attention of all those who are borne on the great wave of colonization that is setting more and more strongly to the dark continent, whatever be their mission, whether religious, mercantile or military, but an especial emphasis may properly be made in regard to the importance of a careful preliminary medical examination of the physical condition and antecedents of every person about to expose himself or herself to the peculiar risks that the African climate imply. Only selected cases should be encouraged to make the venture into those regions; and least of all, perhaps, should those who confess to a predisposition to pulmonary tuberculosis, be sped upon that journey.

EDITORIAL NOTES.

A New Medical Journal.—The publishers of the *New England Medical Monthly* announce that, on January 1, they will commence the publication of a new journal to be called *The Prescription*. It will command the able editorial supervision of Dr. W. C. Wile, of Danbury, Conn. It will be devoted exclusively to practical therapeutics, and will give a world-wide *résumé* of remedial agents, and the favorite formulæ for their exhibition. The newer remedies will receive ample consideration. For the small sum of $1 per year this valuable monthly may be added to the physician's list of journals, and we are confident that it will abundantly repay the outlay.

New York Pasteur Institute.—This institution was opened February 18, 1890. Dr. Paul Gibier, the Director, states that during the

period from that date to October 15, 610 persons have been presented for treatment. In 480 of these cases the animals attacking them were not mad. In 130 cases the anti-hydrophobic treatment was applied, it having been demonstrated by veterinary examination that the animals inflicting the wounds were affected by hydrophobia. All the patients thus treated are at this date enjoying good health.

LAGUEAU finds that the fatality from various diseases is greater in the Paris hospitals than in private practice. He gives the following percentages:

	Private Practice.	Hospital.
Typhoid	12	19
Variola	12	17
Measles	5	23
Scarlatina	6	9
Whooping cough	6	23
Diphtheria	30	64

ACCOUNT BOOKS OF PHYSICIANS ARE PRIVILEGED.—A recent decision before the general term of a New York City court has been rendered to the effect that, a debtor who is a physician cannot be compelled to deliver up his books of account to his receiver, who has been appointed in proceedings supplemental to execution. By the order appointing the receiver, the latter acquired title to the accounts; but not to the books as well. "In the complicated affairs and relations of life the counsel and assistance of clergymen, physicians, surgeons and those learned in the law often become necessary, and to obtain it men and women are frequently forced to make disclosures which their welfare, and sometimes their lives, make it necessary to be kept secret. Hence for the benefit and protection of the confessor, patient or client, the law places the seal of secrecy upon all communications made to those holding confidential relations, and the courts are prohibited from compelling a disclosure of such secrets. The safety of society demands the enforcement of this rule." For this reason, it was held, that the physician's account books, containing information which would be privileged as concerns his patients, are not subject to discovery and inspection in an action between the physician and a third person.

HEAVY PENALTY FOR CRIMINAL MALPRACTICE.—The verdict against the New York abortionist, McGonegal, of fourteen years in the State Prison, for his fatal malpraxis in the case of an unfortunate young woman, will be regarded as a righteous and reassuring judgment. This man had quite a large practice among the tenement house dwellers in upper New York, and used his profession as a cloak for habitual criminal practices. A fourteen years' sentence to a man of his age is apparently tantamount to a life-sentence. He was a regular graduate in medicine, from the University Medical College, class of 1852, but his name had been omitted from the *Medical Register*, or "green-book," by reason of his unsavory reputation. McGonegal's heavy punishment should have a salutary effect, as showing that the law is still potent and in full force against a class of criminals which has generally escaped the consequences of its evil deeds. And it may well be doubted if the public conscience is as fully alive as it should be to the gravity of the offense, murder namely, that is implied in the perpetration of criminal abortion; so long as public opinion is backward so long will the law be more or less of a failure in dealing with this form of murder.

THE Transactions of the annual meeting of the American Climatological Association held at Denver, Colo., September 2, 3, and 4, will be published in *The Sanatarian*, commencing with the November number. Address A. N. Bell, M.D., Editor, Brooklyn, N. Y.

THE *Bristol Medico-Chirurgical Journal* is responsible for the following:

The Tenth International Medical Congress.—A local doctor just back from the Congress tells me that a Berlin paper contained the following "Programme of Papers in the Special Department." He does not think, however, that any of the papers were read.

Prof. Dr. von Moltke: "On the Bleeding which may be Applied to whole Nations."

Prof. Miguel: "On the heaping up of Gold Molecules in the Arteries of State."

Dr. Brömel: "On the bad results of the Iron Cure in International Diseases."

Prof. Dr. Bismarck: "On urgency of Speech as a Symptom which follows vanishing Omnipotence."

Dr. Salisbury: "On the Colonial Fever."

Dr. Officiosus: "On removal of Sleeplessness by the use of the *Imperial Gazette*."

Prof. Lesseps: "On the antiseptic Resection of Isthmuses and the Cupping of Shareholders."

Dr. Milan: "On the central Disturbances which occur when One takes off the Crown in a Hurry."

DR. KOCH has ceased to make experiments in the cure of consumption, and it is presumed that his method of treating the disease has been a failure. This on the authority of a newspaper of recent date.

TOPICS OF THE WEEK.

THE MEDICAL ART IN ANCIENT EGYPT.

An interesting chapter in the legendary history of medicine was opened up recently by Dr. Grant (Bey) of Cairo, at a meeting of the Aberdeen Medico-Chirurgical Society. The subject, that of ancient Egyptian theory and practice, was, indeed, sufficiently archaic to guarantee that it should not be too familiar to attract and instruct even a cultivated audience. The lecturer directed his attention chiefly to a consideration of the work of embalming. In this connection he carefully explained the different methods pursued, the *rationale* of the process, and the results attained. We shall not now enter into these details, but we note with satisfaction that one important collateral matter, that of Egyptian sanitation, has not been overlooked. The impossibility of anything like soil contamination under a system which converted burial into a mere process of antiseptic preservation is obvious. Though certainly less efficient for this purpose than the destructive agency of cremation, it was probably superior to the many imitative methods introduced by modern mummifiers. When the body had been prepared by means of evisceration, stuffing with bitumen, cassia, myrrh, etc., immersion, virtually pickling, for a further term of seventy days in salt, and bandaging in cloth cemented with gums—the series of arrangements under the most perfect system employed—there obviously was little chance of putrefactive decay or infective mischief arising from it. But it was not thus alone that the ancient possessors of Egypt yielded an unconscious obedience to scientific laws which are only now finding their full explanation. They were also most scrupulous in guarding their sacred river against the entrance of impurity. Though some allowance must be made for the fact that such questions as the disposal of sewage must have been simpler of settlement in the days of the Pharoahs than in our own, the example of their more cleanly practice in this respect might well be copied by modern vestries and riverside proprietors. Egyptian medicine has not handed down to our time many valuable traditions. We know, however, that within the scope of professional magic which worked its "cures" in the temple of Isis, the present fashionable novelties of bath treatment, massage, and hypnotism were carried out with elaborate care. So the cycle of time, while it bears us on to new and newer spheres of discovery and activity, ever keeps in touch with those vital conditions which underlie all treatment and are never irrational, save when they are misinterpreted.—*The Lancet.*

INEBRIETY IN GREECE.

Dr. Joannes Phustanos sounds a note of alarm as to the threatened decadence and destruction of the Greek nation by alcohol. Though he denounces only ardent spirits, and does not include wine as an alcoholic beverage, he declares that the abuse of alcoholic drinks has of recent years been sadly extending in Greece, every day adding to the number of the victims. The remedies proposed consist of a reduction of the duty on spirituous liquors and the formation of temperance (moderate drinking) associations. In Britain, however, the increase of taxes on spirits has in the main lessened the sale, and abstinence societies have been the most successful in coping with this evil. This wail over the present extension of inebriety in Hellenic lands is the more remarkable that in former times Greece was the arena of heroic anti-alcohol legislation. The Greek vineyards were all but completely destroyed by the Turks in the fifteenth and sixteenth centuries. The Athenian lawgiver Draco sentenced drunkards to death, though Solon reserved that fate only for inebriates who were also magistrates, and who were found drunk in public. Pittacus ordained that drunkenness should entail a double punishment for crime. Locrian legislation showed some consideration for the medical profession, for while all others who drank were liable to execution, on those who had the authority of a physician's prescription for tasting wine no capital or other penalty was inflicted. This praiseworthy attempt to stay the ravages of so perilous a disease in the classic battlefield of national freedom has our warmest sympathy, and we trust that never again will the ancient epithet of "hard drinkers" be justly applicable to the Greek female population.—*Brit. Med. Journal.*

THE BACILLUS OF TYPHOID FEVER.

The existence of a pathogenic microörganism in enteric fever is strongly upheld by some bacteriologists, especially on the Continent. Most English observers consider the point not yet proved. In sections of the intestines in cases of typhoid fever numerous bacilli are constantly found; they are grouped together into well-marked colonies, and are not distributed throughout the superficial tissues as in dysentery. They are best demonstrated by staining the sections in a solution of methylene blue, and then washing out the excess of stain in water containing a few drops of acetic acid. The colonies are then seen as small dark-blue masses, the rest of the tissue being a lighter color. In drinking-water, soil, or fæces, it is almost impossible to recognize them, owing to the presence of large masses of bacteria which are of no practical import. M. Holz (*Zeitschrift für Hygiene, viii, 1890*), publishes some of his investigations with regard to these organisms. He states that they can only be recognized by comparing their appearances and properties with pure cultures. In order to render their detection more easy, Chantemasse and Vidal added to the gelatine on which they were to be cultivated a solution of carbolic acid, 25 per cent. On this nutrient material the typhoid bacilli flourished, whilst the growth of the others was retarded by the carbolic acid. For the examination of drinking water Holz recommends the following method: To the water to be tested is added a 25 per cent. solution of carbolic acid. This mixture is allowed to stand for three hours, and inoculations on nutrient gelatine are then made. If a free growth of colonies takes place, these are composed of typhoid bacilli, all bacteria growing in a similar manner being destroyed. Grauscher and Deschamps have introduced another test. They mixed with the suspected liquid a solution of aniline gentian violet, and then inoculated

gelatine plates with the colored solution. The colonies of typhoid bacilli were then stained violet, whilst the general mass of the gelatine remained colorless. Holz found that this reaction occurred most readily in a slightly acid medium. The most reliable test, according to the same observer, is a combination of the first of the above methods with potato gelatine. For the preparation of this material raw peeled potatoes are well mashed, and then squeezed in linen, the resulting juice being filtered until clear brown liquid is obtained; to this is added 10 per cent. of gelatine. The reaction of this nutrient fluid is acid. On this the typhoid bacilli grow in a very characteristic manner, and especially remarkable is the transparency of the colonies, so that they can be easily distinguished by their mode of formation from all other bacteria. A number of microörganisms found in food and water cannot be cultivated on the potato gelatine, but some forms of molds and torulæ grow in profusion. This drawback may be prevented by the addition of 25 per cent. of carbolic acid to the water or liquid to be investigated, then by allowing the mixture to stand for twenty-four hours, and finally cultivating on potato gelatine. If colonies then appear Holz considers that the presence of typhoid bacilli is proved.—*The Lancet.*

HAY FEVER.

In the *State Board of Health Bulletin* (Tenn.), Dr. Daniel F. Wright, of Clarksville, a member of the Board, advocates the idea of the curability of this pestiferous malady. He thinks that by anticipating the annual recurrence of the disease and resorting to a locality free from its etiological factors for several consecutive seasons, the unfortunate individual will secure an immunity from his trouble that will be permanent. He speaks in high terms of Roan Mountain (Cloudland), in upper East Tennessee, and from his article we submit the following extract:

"Let it not be supposed, however, that I am about to set forth the specific virtues of some new drug for this purpose, or even those of certain mineral waters impregnated with miraculous chemical ingredients. The only merits possessed by the waters here consist in their perfect purity; and the atmosphere is beneficial simply from its coolness, moisture, and its freedom from dust of all sorts, including that vegetable dust which is constituted of the pollen of various plants. Very few of the plants which constitute the Roan Mountain *flora* give any pollen to the atmosphere, by far the greater number consisting of *conifera, ferns,* and *labiates,* while the great moisture of the air prevents the rising and diffusion of such as might otherwise irritate the nostrils of visitors. In short, the qualities of air and water are simply negative—they simply fail to supply the irritants which are elsewhere the exciting causes of hay fever.—*Southern Practitioner.*

THE MEDICAL PRACTICE ACTS IN MINNESOTA.

The result of seven years' operation of Medical Practice Acts in Minnesota has been to reduce the ratio of physicians to population from 1 to 650 to 1 to 1,250. Hundreds of charlatans have been driven over to Michigan and other unprotected States. In comparing the proportion of physicians in Minnesota to that existing in European countries like France and Italy, it must be borne in mind that, where the population is scattered, the work is far greater than when people are closely packed in thickly populated districts. It is doubtful if one man can attend 1,250 people as easily in Minnesota as he could 3,500 in Italy.

The present law has been in operation for three years, and in that time 205 candidates presented themselves, and 77 of these were rejected. Many other incompetents were doubtless deterred from presenting themselves by the fear of rejection. The Examining Board has conferred a priceless boon upon the citizens of Minnesota, and its appeal for support and coöperation from the physicians of the State should be universally responded to.—*N. W. Lancet.*

MANSLAUGHTER BY A FAITH HEALER.

The practice of faith healing has received a severe check, if not its death blow in the city of Toronto. A certain well known citizen, who had for some time been the subject of diabetes, and had been dieted for it, thought he would give himself the benefit of the newest fashion, and accordingly placed himself in the hands of a Mrs. Stewart, one of the apostles of the new art. Being by her instruction freed from all dietetic restrictions, he speedily died of diabetic coma, and an inquest being held the jury found that "he came by his death through the gross ignorance of Mrs. Stewart, who undertook to cure him of his disease, in not advising him to continue the restricted diet prescribed by his former physician." Mrs Stewart is consequently now awaiting her trial for manslaughter. We forbear to comment upon a case which is still *sub judice.*

A JAPANESE LUNG DISEASE.

In a work recently published on Japan, Dr. Vincent, a medical officer of the French navy, describes a disease of the lungs which he believes to be peculiar to that country. It is caused by a parasite, the *distoma pulmonale,* and is characterized by hæmoptysis occurring several times a day for ten or fifteen years, or longer, and ending in dangerous hæmorrhage. The *distoma pulmonale* is cylindrical in form, and measures from 8 to 10 millimetres in length and 5 to 6 in breadth. It has a very muscular buccal sucker. Its ova are 0.13 of a millimetre in length and 0.07 in breadth, oval in shape, brown in color, and covered with a thin membrane. The parasite makes its abode in little cavities at the periphery of the lungs which communicate with the bronchi by narrow openings. These cavities contain epithelial *débris,* red blood corpuscles, leucocytes, and innumerable ova of the distoma—all these elements being blended together in a sort of pulp, which is expectorated from time to time.—*Brit. Med. Journal.*

DRUNKENNESS.

Alcoholic drunkenness is equally devoid of conscience and shame. It goes everywhere, without invitation or welcome. Whatever it touches it soils. It degrades and disfigures everything within the range of its influence—whether the familiar affairs of everyday life, or the noblest efforts of human genius. Drunkenness really seems to be insanity—reinforced and doubled—lunacy itself run mad.—T. L. Wright, *Times and Register.*

PRACTICAL NOTES.

THE USE OF SULPHONAL IN DIABETES MELLITUS.

According to Casarelli sulphonal has an efficacious action in the treatment of saccharine diabetes.

The author summarizes as follows:

1. Sulphonal exercises a favorable influence in diabetes. Thanks to this remedy we notice a diminution of sugar and of the quantity of urine, a diminution concomitant with the polydipsia.

2. This amelioration manifests itself but to a slight degree, it is true, but even after the use of 1 to 2 grams a day, but it becomes marked after dose of three grams in the twenty-four hours repeated several days in succession.

3. Even when continued for a long time, sulphonal in doses of 2 grams does not provoke any unpleasant secondary phenomena. Given in doses of 3 grams a day, it is at first well tolerated; but if continued it is soon followed by extreme somnolence and vertigo. But a reduction of the dose will soon do away with these troubles.

4. The good effects of sulphonal are equally well manifested with an absolute meat diet. If we stop the sulphonal in this case we will at once find abundant sugar in the urine.

Casarelli gives to this substance marked preference to antipyrin, which in his hands has given markedly inferior results in the same condition. —*The Bulletin Médicale.*

THE TREATMENT OF DIABETES MELLITUS.

We will suppose a case of diabetes of arthritic origin. You will first prescribe the dietetic regimen which is likely to give the best results, along with the lithiated arsenical treatment.

1. Let the patient take before breakfast and dinner 5 grains of carbonate of lithium in a tumbler of Vichy or Vals water; two drops of Fowler's solution should be added to each dose.

2. Give after meals, in a little coffee sweetened with saccharin, 1 gram (15 grains) of antipyrin.

3. Sponge the body all over every day with warm water containing a little *eau de Cologne.* Energetic dry friction with a hair glove after the sponge bath.

4. Require the patient to rinse the mouth, after carefully brushing the gums, after meals, with the boracic acid mixture above given.

5. Pursue with rigor the following dietetic treatment: A diet exclusively of eggs, meats of all kinds, fowl, game, mollusks, crustaceans, cheese. All green vegetables are permitted except beets, carrots and turnips.

Urge the free use of fatty foods, such as sardines in oil, tunny-fish with oil, sour herring with oil, pork, butter, *pâté de foie gras*, "*rillettes*," bacon fat, etc. For soups recommend principally cabbage soups, bouillon with poached eggs, chicken broth, onion soup, mutton broth, clam broth, etc. All these soups should be taken without bread or crackers.

For bread, allow gluten bread, soja bread, fromentine bread; with each meal allow three ounces of boiled potatoes. To sweeten drinks, use pastilles of saccharin. Tea, coffee, maté, kola are permissible.

Prohibit all amylaceous foods, bread, panada, macaroni, rice, pies and cakes, custards, puddings, sugar, sweetmeats, chocolate, preserves, all fruits.

Milk is forbidden unless taken in very small quantity. All sauces and gravies containing flour are also forbidden.

For drinks, allow with the meals wine diluted with Vals or Vichy water, but little pure wine, no brandy or other distilled liquors.

6. Regular daily exercise to be taken. All bodily exercises are favorable. Insist especially on walks in the open air, mountain excursions, fencing, boxing, joinery.

Such, gentlemen, are the bases on which should be established the regimen of diabetic patients.—Dujardin-Beaumetz, *Therapeutic Gazette.*

ANÆMIA WITH AMENORRHŒA.

℞— Acidi arseniosi, gr. j.
Ferri sulphat. exsiccat., ʒ ss.
Pulv. pip. nigr., ʒ j.
Pil. aloes et myrrhæ, ʒ j.
M.—Et div. in pil. No. xl.
Sig. One twice a day after meals.

—*J. Milner Fothergill.*

ALBUMINURIA.

℞— Potass. acetatis, ʒ j.
Chloroformi, ʒ ss.
Acid. benzoic, ʒ ss.
Aquæ, q. s. ad ʒ viij. ℥
Sig. f ʒ ss every four hours.

When the prescription given above fails to give any tangible benefit, I then substitute the following:

℞— Potass. acetatis, ʒ ij.
Acid Benzoic, gr. xx.
Sacch. lactis, ʒ iv.
Aquæ, q. s. ad ʒ iij. ℥
Sig. f ʒ j every two hours.

—*Prof. Waugh*, Philadelphia.

CHILBLAINS.

Prof. Morrow is credited with this apparently excellent formula for chilblains:

℞— Acidi carbolici, ʒ j.
Tincture iodini, f ʒ ij.
Acidi tannici, ʒ j.
Cerat. simplicis, ʒ iv.
Misce bene ut ft. ungt.
Sig. Apply two or three times a day.

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, September 24, 1890.

THE VICE-PRESIDENT, JOHN B. ROBERTS, M.D., IN THE CHAIR.

(*Concluded from page 625.*)

DR. JOSEPH PRICE, of Philadelphia, read a paper on

CERTAIN CAUSES OF MAJOR PELVIC TROUBLES, TRACEABLE TO MINOR GYNECOLOGY.

With the present popular cry of "conservatism," in reference to operation in cases where it is held that all treatment should be tried previous to real surgical interference, it is worth while asking whether the preliminary treatment should not itself be abandoned in the hands of those who plead most pathetically for it. Their cry is not a scientific plea, but in most instances a *personal bid* for indulgence while they try to accomplish something, without acknowledging on the one hand that there is little or nothing to encourage them in their work, so far as results are concerned; and on the other, that there are abundant proofs from the cases that have come out from under their hands, with one treatment or another, that manifold really major surgical affections arise merely from treatment recognized as orthodox from the standpoint of minor gynecology. So far as my own experience is concerned, I do not hesitate to put minor gynecology in a causal relation with a vast amount of the necessary major pelvic surgery coming under my attention.

First among these causes may be mentioned the Emmet cervical operation. Like many other surgical operations, this, when first explained by its distinguished originator, was done in season and out, by everyone, without the least consideration of its contraindications. Very many minor tears of the cervix, in which a cosmetic effect only is obtained by operation, are made distinctly worse by operative interference. In many cases the pain becomes insufferable, from the lighting up of a dormant or unrecognized pelvic trouble, and operation is required to undo the mischief of an unnecessary cervical closure. This fact has been recognized by Emmet himself, and he has counselled the careful selection of cases in order to escape these disastrous results. It should be set down that where is preëxisting pelvic disease, even though slight, no cervical operation ought to be tried unless absolutely required by the condition of the patient. Another operation which has met with much approval in many directions, and which some measure of success seems to follow in some cases, is the forcible dilatation of the cervix. It is clear that where there is antecedent inflammation of the pelvic viscera, that is of the genito-urinary system, such an operation as surgical dilatation of the cervix cannot be free from danger. In order to relieve dysmenorrhœa by this procedure, it must evidently be due to stenosis of the os or cervix. The question here arises, can it be told, in dysmenorrhœa, wherein its causes lie? Sometimes, but not infallibly. The fact is, that in many women where a stenosis would be diagnosticated, there is no difficulty whatever attending the menstrual flux. This being the case, it is evident that a diagnosis cannot be made by simple observation without a careful study of all the symptoms. Again, in many women the causes for this condition are complex. It will not do to lose sight of this, and conclude that because a flexion exists dilatation will remedy menstrual pain. It is to be remembered that if there is coexisting pelvic inflammation dilatation will increase it, and, under certain conditions, cause it if absent. Rapid dilatation of the cervix is a distinct traumatism, and along with it run all the dangers incident to septic absorption that attend any other violent procedure, and where traumatism incident to natural causes is confessed to be the cause of so much subsequent mischief, it ought not to be *expected that operative injury can be harmless.* This conclusion, reached inferentially, has been abundantly confirmed practically on the operative table by much of my later pelvic work. In a number of cases with a history of preceding dilatation, the after-operation has exhibited an inflammatory condition of affairs as complicated as any other in my experience. Some of the dilatations were done with preëxisting disease, which was made worse by this interference, while others were done simply to relieve the dysmenorrhœa, and resulted in the establishment of a complicated surgical disease in which operation was *necessary purely to save life.* All in all, I believe that, judged simply by its remoter effects, the operation of rapid dilatation is a dangerous one, *and results oftener in subsequent harm than in lasting good.* The surgical injury to the cervix is, in many of these cases, more pronounced than the tears of the cervix which it is the intention to remedy by Emmet's operation. In this case there is operation at each horn of the dilemma, and the results are often equally bad at both. Simple closure of the cervix in cases of pelvic disorder, almost certainly exacerbates the symptoms. The necessary inflammatory action set up in the suture tract, is transferred along the lymphatic or venous channels to the seat of the earlier inflammation, this is lighted up anew, and goes on in its development until a pelvic peritonitis is kindled or rekindled, which at last entails a major operation. The minor gynecologist, as such, who has no regard for or appreciation of the relation of the commonly advocated general closure of perineal and cervical tears to major surgical complications,

cannot but be a great factor in the causation of the same. In Pepper's System of Medicine, Vol. iv, there is on record a case in which the operator hoped to cure a pelvic inflammation by the derivative effect of a perineal or cervical operation. Needless to say, pelvic operation was afterward done. Such a cure is no less ridiculous than the so-called "faith" cure, and is certainly more *actively* harmful.

That the inconsiderate use of the uterine sound has been responsible for much inflammatory pelvic trouble, is scarcely to be disputed. This is not because the sound is of itself a dangerous instrument, but because it is put into the hands of every tyro, as an instrument of diagnosis. If used at all, it should be in the hands of those with whom its application, by reason of their skill, will be exceptional, not usual, and the rule should be, that in the hands of the non-expert it should be forbidden. The more expert and experienced the specialist, the more rarely will the instrument be required. My own rule is, that in cases in which it might at first seem indicated, a little patience and diligence will obviate the necessity of employing it. The indiscriminate use of the sound and electrode, is the most serious *mechanical* objection to the employment of electricity. Every sitting for the electrical treatment is prefaced by the use of the sound, and followed necessarily by the introduction of an electrode of some form. This is by a class of men who, in the main, have had no *previous gynecological training or education* whatever. In such hands such methods can only be harmful, and we are now reaping the fruits of their work in a class of pelvic operations not surpassed in the complications presented. Along with the sound may be placed the curette in the same category. Dilatation, with curetting of the uterus, have placed to their credit a long *series of major operations.*

Another class of cases coming under this head are those in which there has been a long time during which intra-uterine applications have been made. All the caustics in the catalogue have at one time or another been in favor, as cure-alls, in intra-uterine therapeutics. Nitric acid, chromic acid, nitrate of silver, and the rest. For a woman to have undergone a routine treatment with this list, and to have escaped pelvic inflammatory trouble, is little short of a miracle. A careful inquiry into many of the cases coming under my care directly and indirectly, reveals the history that all sorts of minor procedures were tried, only to fail and apparently hasten the necessity for operation. I shall refer to and illustrate these points by the citation of cases in the discussion.

Dr. E. E. Montgomery: I fully second what Dr. Price has said with regard to the frequency of troubles necessitating major operations which result from the various methods of procedure in minor gynecology. I do not think that any person who has practiced gynecology has not met with cases of inflammatory trouble of the uterus travelling to the ovaries and to the peritoneum, giving rise to conditions which have been described as peri- and para-metritis, which have resulted from the use of the uterine sound. When we consider the fact that the uterine sound has been a part of the routine method of examination of many physicians practicing this branch of the profession, it is not surprising that these troubles should so frequently occur. The uterine sound, as has been stated, should not be introduced in any case until the patient has been thoroughly examined, and the presence or absence of any inflammatory condition in the uterus, or about it, has been eliminated. The practice of Emmet's operation upon cases as soon as they consult a physician for treatment, where a slight laceration is found and the physician at once attributes the symptoms to this lesion and performs the operation, has justly led to its discredit. The operation is undoubtedly one which, in some cases, is of great benefit; it is, however, in properly selected cases. No case in which the presence of other inflammatory conditions has not been eliminated or cured by proper methods is suitable for the operation. One reason, I think, why Emmet's operation has proved so disastrous in many of these cases is the fact that, as the result of sub-involution of the mucous membrane from this lesion, we have an increased amount of secretion which, after narrowing of the cervical canal by the operation, is unable to escape freely; consequently, the uterus becomes dilated to a certain extent, and this favors more rapid extension into the Fallopian tubes and the development of serious trouble. One cause of the extension of inflammatory trouble from the uterus to surrounding parts is insufficient drainage from the cavity of this organ. Dr. Price very justly condemns the use of irritating materials which have been employed in the cavity of the uterus. Many who have proposed agents for the treatment of inflammatory troubles in the cavity of the uterus have seemed to labor under the idea that the only method of curing these inflammatory lesions was by destroying the mucous membrane in which they originated. The application of nitric acid, chromic acid, nitrate of silver in stick, and the like, results in relief by destroying the mucous membrane from which the secretions take place. In this way inflammation may be caused which may extend to the deeper structures of the uterus and to the pelvis. I fully agree with the importance of care in the treatment of these various classes of cases, to avoid adding to the discomfort and to the crippling of patients.

Dr. John C. Da Costa: I am glad to hear Dr. Price speak of the dangers of minor gyne-

cology, but I do not know how we shall get along without it, unless we adopt the rule (which he leads us to infer from his paper is his) that in all these ailments we open the abdomen and remove the tubes and ovaries. I hardly think that Dr. Price is right in attributing the major pelvic troubles to gynecological treatment, for, from the little that he has said, I think that we may infer that the pelvic trouble already existed, and the practitioner made a mistake in treating the uterus rather than the uterine appendages. I am glad to hear him speak in regard to Emmet's operation. I have heard long lists of cases reported with the statement that "all recovered without bad symptoms." That has not been my fate. One of the hardest fights that I have had for a woman's life has been after an operation on the cervix. Many unnecessary operations are done on the cervix. They are often done by men who want to make a record—by men who practice gynecology without knowing much about it. They see a torn cervix, and, without knowing whether or not the symptoms are due to that, proceed to operate. They do it, also, without properly preparing the patient beforehand. Where a lacerated cervix needs operation, as a rule, it needs previous treatment. If the cervix is put in proper condition, there will not be the same liability to bad results.

There is probably no instrument that is more used in minor gynecology than the dilator, and there is probably no instrument that can be more abused than the dilator. Professor Goodell has reported to this Society many cases in which forcible dilatation has been used with grand results. I have used forcible dilatation in many cases, and have never had any bad results. The reason is that, when I began the study of gynecology, I was taught how to use it properly and not to use it in every case. Take the sharply bent womb, and all the pessaries made will not straighten it. You must put something inside, either a dilator or a sponge-tent. Again, let the uterus become congested and the mucous membrane swollen, closing the uterine canal and causing dysmenorrhœa. You can cure that case in from two to four treatments by dilatation, while you may treat it by other means for months without doing good. The dilator is a surgical instrument, and one which must be handled carefully. You must know how to do your work before you attempt to use it.

Now, in regard to the use of the sound. I hear gentlemen state that they can outline any uterus without the sound. I have tried that, but have never been able to do it. Take a uterus enlarged, like this sketch, and I defy anyone to say in what direction the canal runs. It may be a uterus in the normal position with a fibroid of the posterior wall, or it may be a retroflexed uterus with a fibroid on the anterior wall, or a plastic mass between the uterus and bladder. It behooves us to use the sound carefully. If a man tries to force the sound into the canal, he will certainly do damage. If, however, he will outline the shape of the uterus as well as possible, and then bend the sound to fit as nearly as may be, and then make effort after effort, he can, in the most distorted uterus, get the sound in without damage. Then, in regard to the curette. These usually have a sharp, cutting edge. Such an instrument is hardly safe for an able practitioner to use, and is not safe at all in the hands of an unskilled person. Where inflammation extends from the uterine cavity to the tubes, after the use of the curette, it is not so much from the instrument as from the man who uses it.

I should be loath to give up intra-uterine applications. I have used them a long time, and, while sometimes pain has been caused, they have never done any serious damage. As Prof. Wallace used to say, "Some uteri are sensitive to the slightest touch, and some are as stupid as oxen." When you make an application, you must know the uterus which you are treating. Nitrate of silver used to be a common application, but it is one of the worst that you can make. It will, as a rule, produce cicatricial contraction of the canal. Nitric acid, although so much stronger than nitrate of silver, is not so apt to do this; but nitric acid is rarely required. In a case of fungous granulation, I should not hesitate to scrape out the whole inside of that uterus and make a strong application, and after watching the patient for a short time, send her home, and not expect to have any trouble. This is because I know my cases. I do not do it to every case. I think that Dr. Price will find that the dangers from minor gynecological operations are more because of want of good, sound judgment in the practitioner, and not so much in the operation itself. I cannot agree that pelvic troubles are always due to these minor operations.

DR. JOSEPH HOFFMAN: I have put on record in the Obstetrical Society a case where the uterus was perforated by the curette, and this case serves to show that the remarks of Dr. Da Costa enforced the argument which Dr. Price endeavors to bring out, to wit, the danger from the widespread use of the uterine sound, the curette, and the dilator, as advocated by some. I believe that, if we took all the gynecological instruments invented and put them together and multiplied them by ten, we should have no such instrument as gives such bad results as the dilator. It is easy for Dr. Da Costa to claim that he knows when to use it and when not to use it. I think that he over-estimates his ability to say whether he has ever done harm by it, for patients rarely come back after they are harmed. I have seen to-day two patients that had been treated by the curette, and from whom I have removed the ap-

pendages. In one case that I know of, the uterus was torn by the dilator, then a sponge-tent was put in and allowed to remain I do not know how long. You know the rest. In the case in which the uterus was perforated by the curette, the operation was done by a gynecologist of considerable experience. Nevertheless, the uterus was ruptured and peritonitis was brought on and abdominal section was necessary to save life. I have to-day had two other women who were treated by minor gynecology; they were both left very miserable. In one the vagina is much contracted and the pelvic viscera are certainly affected. In one of these cases, especially, electricity was used *ad nauseam*. The history is this: first, dilatation and scraping; then, closure of the perineum; and then, opening of the abdomen. In regard to operations on the cervix and perineum, we are to remember that operation on the perineum is not so apt to cause trouble as operation on the cervix.

What operations on the cervix are necessary? Every cervix with a slight laceration does not require operation. Some of these heal without suture, although traces of the damage may remain. The preparation of the patient often shows that operation is unnecessary—puncture and the ordinary derivative procedures so reducing the size of the cervix that the laceration almost disappears. In regard to ulceration of the cervix, I do not believe that there is such a thing, except as the result of bad laceration or specific disease. In laceration the ulceration is only apparent; it is really an erosion due to eversion and hypertrophy.

The curette in some cases seems to be a necessary evil which we cannot do without. I have found it useful in getting rid of putrid *débris* from a miscarrying uterus, in the early weeks of pregnancy, when the use of the finger is thoroughly clumsy and painful, if not impossible, without previous dilatation with a tent. In the presence of such detention, the use of the tent is not without danger, since, during the period of its presence in the cervical canal, all channel of escape for decomposing material is shut off. I can say that I have had no bad results, that I know of, in the use of the instrument.

DR. WILLIAM E. ASHTON: The question of the use of the dilator depends upon one or two facts. First, as to the condition of the uterine appendages and their surroundings; and, secondly, properly selected cases. I do not imagine that anyone would use the dilator when we have present acute or chronic inflammation of the uterine appendages. I think that anyone who has had experience in the use of the uterine dilator would hesitate to employ it except in selected cases. I believe that where we have the pelvis perfectly free from local disease, and in cases where the uterus is strongly anteflexed and perfectly movable, and upon the introduction of the sound we find that there is a point of intense pain at the internal os, we shall find in a certain proportion of cases that good results are obtained from the dilator. It is nonsense to talk about the causes of dysmenorrhæa. It is only a symptom. The vast majority of cases of dysmenorrhœa are cases which have a distinct tubal or ovarian origin. It would be absurd to rapidly dilate in such cases. In regard to Emmet's operation, I agree with Dr. Price in reference to minor gynecological operations dealing most disastrous results in the pelvis. I grant that there are cases, in which the uterus is in a state of subinvolution where a plastic operation will bring about a cure, but I do not believe in operating on the uterus if there is any diseased condition of the appendages. Any manipulation under such circumstances is apt to set up inflammation. Four years ago, I had a case of bad laceration of the cervix in a woman, with pus tubes on both sides. I refused to operate on account of the disease of the appendages. She then went to New York, and was operated on by a prominent gynecologist, and died of large abscess, the result of the operation lighting up the old inflammation.

DR. DA COSTA, in answer to Dr. Ashton: I probably did not make myself clearly understood. I do not want it understood that I would do an operation on the cervix if there was inflammation in the pelvis, such as pus tube or anything else. My teaching is: When there is violent inflammation in the pelvis, not to do any operation on the uterus, and to hesitate to use the sound.

DR. J. M. BALDY: I think that there is no question in the minds of gynecologists that Emmet's operation is a much abused operation. I think that it is also true that the vast majority of these ill-advised operations on the cervix are done by men who have no gynecological experience and who know very little about gynecology. I can recall two cases in which I was recently called to operate on the cervix by general practitioners, and by whom I was informed that the lacerations were very bad and that the woman was suffering greatly. On examination, the tears proved to be comparatively slight, and needed no interference. There are some cases in which a cervix operation at first sight appears justifiable. These are cases in which the cervix is torn to the vaginal vault. I care not if the cervix be torn on both sides to the vaginal vault, if there is not eversion and erosion, or much scar-tissue, there is no reason for operation. I should be loath to give up forcible dilatation in certain cases. It is not to be done in every case of dysmenorrhœa, for the vast majority of cases of dysmenorrhœa are due to ovarian or tubal disease. I believe that in the vast majority of cases where trouble follows the use of the dilator, there has been preëxisting pel-

vic trouble. I do not think that a carefully done dilatation in a healthy pelvis will do harm. It is admitted that it does tear uterine tissue, but that this can cause trouble, unless the wound becomes septic, I am not prepared to admit.

The use of the sound in the hands of a doctor is in inverse proportion to his skill. The man who is skilled rarely uses it. In such cases as have been mentioned by Dr. Da Costa, I see no use for the sound. I do not see anything essential that it could tell. I must say that I have not seen a uterus of the exact shape he has figured on the board. In the vast majority of cases I have been able to tell which was fundus and which was tumor. If we are dealing with fibroid, it makes no difference what wall of the uterus it occupies. I do not suppose that I use the uterine sound once a month.

The curette, I think, is a valuable instrument, but it is abused and used indiscriminately. After abortion, I find it most valuable. In some cases of chronic endometrial disease it is valuable. I believe that it will remove almost all necessity for intra-uterine treatment. I find such applications rarely called for except, perhaps, the application of nitric acid or iodine, after the use of the curette. I think that the dull curette is useless. The only rational instrument to use is the sharp curette. I was recently called some seventy miles to see a case where the physician assured me that the uterus contained nothing, as he had twice gone over it thoroughly with the dull curette. I used a sharp curette and removed large masses of placental tissue. The sharp curette can be used with as little danger as any other instrument, if used properly in skilled hands.

DR. J. M. FISHER: I am engaged in treating a number of uterine troubles with electricity. Dr. Price has stated that the use of the electrode is fraught with much danger. That the introduction of any instrument into the uterine cavity carries with it a certain risk is not denied, but that the electrode is especially responsible for many of the diseases can certainly be questioned. There are certain diseases of the uterine tissue and lining membrane that can be most effectively treated by properly applied galvanism. I can cite one case in which the use of electricity saved the patient from undergoing a major pelvic operation. A woman, forty-two years of age, had a fibroid uterus with hæmorrhages, so that she was confined to bed half the days of the year. At the time that I was called she had been laid up for nine weeks and was exsanguine from loss of blood. She had been treated by two good practitioners, and, failing to give her relief, operation was proposed and about to be done. I made a positive application of electricity, and after the first or second application, the hæmorrhage was arrested. Four applications, extending over a period of twenty-one days were made. This was in November and December, 1889. After that she menstruated regularly until May, when she was again seized with hæmorrhage. I was out of town, and the bleeding continued three weeks. On my return I made a positive application of electricity, and since then the menstrual discharge has been regular, lasting three or four days.

DR. C. P. NOBLE: I am convinced, as the result of my experience, that the less the uterine sound is used the better for the patient. Recently a case passed through my hands in which the question of pregnancy was mooted. She afterwards fell into other hands, and the sound was passed three inches and the patient was supposed not to be pregnant. She was, however, seven months pregnant, as subsequent events showed. The information given by the sound is often delusive. I, however, cannot see how the simple passage of the sound, provided it be clean and passed through a speculum, with a clean cervix, should set up pelvic inflammation, provided such trouble does not already exist. This, however, is neither here nor there, for I do not see that we need to use the sound in diagnosis. In small uteri it is not needed, because the organ can be outlined bimanually; while in large uteri, where tumors are present, the instrument may not reach the fundus, and so give incorrect information. I must agree with Dr. Baldy, rather than with the author, in regard to rapid dilatation. I should be loath to give it up. I have never seen harm follow rapid dilatation in any case. This is due to the fact that dilatation has been used in cases in which the disease is limited to the uterus. I agree that it is useless and dangerous to dilate the uterus when tubal disease is present. In uterine disease it is capable of doing a great deal of good. I am quite sure that a certain number of cases of tubal disease are set up by a narrow cervix. The secretions of the uterus cannot gain egress and set up endometritis, and the inflammation travels into the tubes. In these cases, if the cervical is dilated to allow the free egress of secretions, it will be a positive factor in the prevention of tubal inflammation. In such cases as were mentioned by Dr. Ashton, of acute anteflexion, the dilator does a great deal of good. In fact, in regard to all these minor measures which have been mentioned to-night, I find them of service, but the fact must be emphasized that they are useful only when the disease is limited to the uterus; and that the uterus should not be operated on, in any way, in the presence of pelvic inflammation, particularly abscess.

Why we should give up the curette I cannot understand. There are many cases of hæmorrhage from the uterus due to uterine disease purely, where there is no ovarian or tubal disease. In such cases the use of the curette will permanently control the hæmorrhage. I think that

one reason septic trouble follows minor operations is because antiseptic precautions are not observed. I think that is the case with the dilator. If used on the office table, it is impossible to employ complete antisepsis. If such precautions are used, and there is no extra-uterine inflammation present, I do not think that inflammation will follow any of the minor gynecological operations.

DR. PRICE: I am sorry that the discussion has taken the direction that it has, for it does not give me an opportunity to express myself thoroughly; it does not give me an opportunity of pulling out a number of telegrams; it does not give me an opportunity of calling things by their right names. I have thrown down the gauntlet, and no one has quite taken it up. Some one has spoken of minor gynecological methods. In a recent article a writer prefaces what he has to say by giving details of methods for the treatment of "ordinary gynecological troubles." I do not know what "ordinary" gynecological troubles are. If it means from 9 o'clock to 3 in an office, with a nurse and a Sim's speculum, peeping at crevices and taking ten dollars from each patient, then I understand it. He is the great mischief-doer. He tinkers, dilates, curettes, and passes the sound, and in from four to six weeks I get a telegram to come and open the abdomen to save the patient's life; that the woman is leaking; that she has a pulse of 130–140, with a temperature of 104°. This occurs weekly. A speaker stated that there is no harm in electricity. Three fibroids in that jar have pus in them as the result of the use of electricity. Of the twenty specimens in that jar removed during August, 50 per cent. followed dilatation, closure of the cervix, the use of the sound and the curette. These specimens have come from four clinics in this city and from ten prominent gynecologists. They all had sections to save life, and all were greatly complicated operations. In regard to the sound, Dr. Ashton has said all that I am capable of saying. I have not used the instrument for many years. It is a common method of determining the existence of pregnancy, particularly among homœopaths, although not confined to them.

In comparison with the former state of the same subject, we must inquire into the causes which must have been at work during the past few years. This private-office work has a great deal to do with it. Many of these men are simply cervix-feelers, and never find anything above it. There may be a mass larger than the uterus to one or both sides, which he fails to find. They are not anxious to find them, and would not be troubled by them. The dysmenorrhœa in infantile uterus has nothing to do with the uterus. Pelvic pain in all infantile conditions of the uterus and pelvic viscera is exceedingly common. In these cases dilatation avails nothing. Dr. Baldy says that he uses the sound once a month. I presume that he dilates about once a month. I will consider together drainage of the uterus, referred to by Dr. Noble, and the use of the sound and dilator, referred to by Drs. Baldy and Noble. The sound measures about two lines in diameter, but we will say that it measures only one. I am sure that the drainage is quite sufficient through a canal one line or more in diameter. I find that those who have such a love for dilatation always precede it by the use of the sound. If they use it for drainage the indications are not clear.

DR. BALDY: I would ask to what part of my remarks Dr. Price refers. He has entirely misunderstood me. He stated that presumably I dilated for drainage, and that I first pass the sound, which will of itself establish drainage, without the dilator. My remarks were not in regard to dilatation for drainage or anything of the kind. I do not know that I specified what I would dilate for. Time did not admit of my discussing that point. In regard to passing the sound once a month, I do not know that I meant to make that a positive statement. The statement was simply made to illustrate the infrequency with which I use the sound.

DR. PRICE: I thought that I had made that clear. I said that I would call attention to two points—that of drainage, as referred to by Dr. Noble, and the sound and dilator, as referred to by Dr. Baldy. In regard to closure of the cervix, there are a few cases in which the operation is of importance, but the ordinary method of closing the vaginal surface of the cervix only is very imperfect. This forms a large cuspidor-like cavity or retention sac. I have repeatedly split these up, freshened the cervix, and made a perfect cure. I have thrice this summer been called out of the city to open the abdomen in cases in which dilatation had been performed a short time previous.

Disease of the cavity of the uterus and fungous vegetations are far from common. Many healthy uteri are curetted, and it is thought that granulations are found. If the woman had been let alone, she probably would have conceived. The same is illustrated by a class of cases which I have studied among women locked up in a reformatory. Some twenty or thirty women, who had been living lives of chronic inebriety and lust for three or more years, had none of them conceived. After six months' rest, iron, and good diet, the greater number conceived on leaving the institution. In these cases no intra-uterine treatment was employed, and only one examination was made to determine the position of the uterus and its relation to surrounding parts in the pelvis. As a diagnostic instrument, I do not see why any one should want to use the sound. As a student, I never could see what was gained by the use of the sound; in the hands of the trained or experienced it is not needed, and in the hands of the inexperienced it is dangerous.

DOMESTIC CORRESPONDENCE.

LETTER FROM BALTIMORE.

(FROM OUR OWN CORRESPONDENT.)

Prof. Wm. H. Welch on Arterio-Sclerosis—The Attendance at the Medical and Dental Colleges—The opening Lectures—The Johns Hopkins Hospital—The Reconstructed College of Physicians and Surgeons—What the Faculty of the University of Maryland are doing—A new Homœopathic Medical College—The Baltimore Medical and Surgical Record—Miscellaneous Gleanings.

The colleges and societies have fully resumed work for the season, and with most flattering prospects. Our chief medical society, the "Clinical," elected for its presiding officer for the current year Dr. Hiram Woods, Professor of Diseases of the Eye and Ear at the Woman's Medical College and Assistant Surgeon of the Presbyterian Eye and Ear Hospital, who has been an active worker among the younger set.

The feature of the first business meeting of the same society, held last Friday week, was a paper, or more properly a lecture, by Prof. William H. Welch, of the Johns Hopkins Hospital, on "Arterio-Sclerosis." Prof. Welch devoted his attention chiefly to an exposition of the recent researches of Thoma, which he was able not only to accept but also to confirm by investigations in his own laboratory. The series of pathological changes resulting in the condition known as arterio-sclerosis, originates, according to these authorities, in a weakening and yielding of the middle cord of the arteries. Nature makes an attempt—often abortive though it be—to compensate for this defect by a deposit and consequent thickening of the intima. This view systematizes the subject in its various aspects and shows how under various circumstances as in the fœtus, after labor, in connection with Bright's disease, etc., alterations in the volume of the peripheral circulation are met by a corresponding reduction in the calibre of more central vascular channels. The lecture was illustrated by numerous interesting microscopic and macroscopic specimens.

Among those who took part in the subsequent discussion, more, however, from a clinical than a pathological standpoint, were Drs. Osler, I. Edmondson Atkinson, and Keirle.

The attendance at the Colleges—notwithstanding an anticipated falling off on account of the projected elevation of the standard in 1891 and 1892—is very large. At the University of Maryland there are from 230 to 250 medical students and about 125 in the Dental Department; the College of Physicians and Surgeons has about 304 medical students and the Baltimore Dental College, which is affiliated with it, about 125; the Baltimore Medical College has about 100, and the Woman's Medical College 18 or 19. The number at the Baltimore University across the Falls is unknown; this institution has organized a Veterinary and a Law Department, Dr. Ward, F.R.C.V.S., having charge of the former.

The opening lectures at the College of Physicians and Surgeons and the Baltimore Medical were delivered by Profs. George J. Preston and Thos. A. Ashby, the former taking for his subject "Higher Medical Education;" at the Woman's Medical College Prof. Jay held forth; the University of Maryland for many years has had no formal opening.

The authorities of the Johns Hopkins Hospital—so far as I have seen—have not repeated their announcement of special courses given last year, although I believe instruction goes on regularly with the internes. The establishment of the medical school in connection with the Hopkins Hospital is delayed, as is well known, on account of lack of funds, the school being a part of the University proper, which has an endowment independent of the Hospital. By a reinvestment of the Baltimore and Ohio stock of the University in good paying securities, that portion of the Hopkins foundation has been relieved of its temporary embarrassment, but it would appear from the appeal which President Gilman made to the wealthy for aid in inaugurating the Medical School, that the funds do not suffice as yet for another large drain upon the University's resources. Judging from the liberality of Baltimoreans to this institution in the last few years, there is every reason to think that the appeal, backed by the President's influence and energetic efforts, will result as successfully in this case as in the former one. The ladies continue their efforts to raise the $100,000 which they hope and believe will secure admission by women to the privileges of the future medical school. At last accounts some $60,000 had been raised. From what I have heard there seems to be a strong sentiment in favor of the women among the professors and Trustees of the Hopkins, but whether the latter will decide to make the change when the time comes, especially with so small an inducement as the ladies propose, is quite questionable.

Improvement is the order of the day at our two leading Colleges, especially at the College of Physicians and Surgeons. One could scarcely have realized the possibility, to say nothing of the probability, of the vast changes that have taken place in the condition of this institution within the past two or three years. Their shabby old building, which served the double purpose of a college and hospital, has given place to a grand hospital occupying the entire city spring lot, formerly vacant. In place of the old building itself, a larger and more substantial one is rapidly approaching completion for college purposes exclu-

sively. Whilst a part of the old walls were used in the construction or reconstruction, the arrangement and plan are altogether different, and provision seems to have been made with admirable foresight for the best instruction in medicine attainable under the present methods and with the present resources. Entrance to the ground floor through a wide arched doorway reveals a large reception room, ranged around which are the drug room and nine private apartments for the various clinical departments. The rear of this floor contains apartments for prosecting, vivisection, the manufacture of drugs, and vats for the preservation of forty bodies. A wide stairway leads from the reception room to the floor above. Here are located the reading-room, a spacious and well-lit apartment, the Faculty room, the offices, the chemical apparatus room, a waiting-room, a lecture-room and apartments for the resident physicians and students. An elevator serves for the conveyance of bodies, etc., from the first floor. The rear of the third and fourth floors is occupied by a second lecture-room, which is one of the handsomest I have seen. The lofty ceiling is finished off in wood, the beams and arches which support it producing a fine effect upon the eye. A large chandelier hangs from the centre and a smaller one from the ceiling over the enclosure for the lecturer. Both lecture halls are semi-circular in shape, and contain seats for about 300 pupils; they are provided with strong wooden folding back chairs, the rows of which rise one above the other as in an amphitheatre. The third story front contains the chemical, physiological, histological and pathological laboratories, which are provided—or will be—with necessary apparatus, including a dozen or more microscopes. There are also smaller apartments on this floor for private research. The fourth floor in the lofty mansard roof is appropriated to the purposes of dissection and post-mortem examinations. There are accommodations here for thirty to forty students to dissect at one time. The whole building is heated by steam, and is well lighted; the lecture rooms are to be lighted by electricity. This large outlay by the Faculty, which will cut off their salaries for at least two years, evinces a most commendable determination on their part to be abreast with the better class of medical schools, and they deserve the greatest credit for their really honest efforts and praiseworthy self-sacrifice.

The Faculty of the University of Maryland have recently spent about $10,000 on their hospital. Besides a general overhauling of the building, a large addition has been erected for the accommodation of the Nurses and the Nurses' Training School, which was instituted under the charge of Miss Parsons, an experienced English nurse. Lectures were delivered during the summer by her and by members of the Faculty to some thirty or more nurses. The change was necessitated by the departure of the Sisters of Mercy (Catholic) who had been in charge of the building for many years. These Sisters have taken charge of the new City Hospital of the College of Physicians and Surgeons. On their leaving the Faculty decided that the most urgent need of their institution at this time was thorough provision for efficient clinical teaching, of which good nursing is a most essential part. They established their Training School for the purpose of providing a supply of skilled nurses primarily for themselves, and secondarily for the community. The demand for such nurses is greatly on the increase, but what we need are good and competent nurses at moderate prices.

The newspapers announced yesterday the organization of the "Southern Homœopathic Medical College," a new claimant for public patronage in this already overburdened medical centre. Twelve chairs and two lectureships were filled by local practitioners, vacancies remaining in the chairs of surgery and operative surgery. This institution, with its hospital, is the outgrowth of a schism in the homœopathic camp. As they are backed here by a large and wealthy following, the institution will doubtless meet with an early and substantial success.

Simultaneously with the advent of a new college, we are treated to a new medical journal, *The Baltimore Medical and Surgical Record*,—a monthly—T. H. Graham, Editor and Proprietor. The editor, who appears to be a non-medical man, is unknown in medical circles here, at least not to the writer and others. His first number contains forty pages, presenting the usual variety, including a Berlin letter. It is adorned by an engraving and a sketch of Dr. H. P. C. Wilson, of this city. The editor proposes to call to his aid specialists in the various departments, who are expected to contribute original articles, editorials, book reviews and miscellany, for which they are to be duly compensated. The first number presents a very creditable showing, and as the journal is to be only $1 a year, it will doubtless find a place here and prove a formidable rival to the older *Maryland Medical*.

An important publication has recently emanated from the Johns Hopkins press, being Nos. 3 and 4, of Vol. ii, of the "Johns Hopkins Hospital Reports," octavo, pp. 122. It is devoted to a report of gynecological work done at the Hospital by Dr. Howard A. Kelly and his assistants, Drs. Robb and Williams. It has been looked for in local medical circles with interest for some time, as it was known to be in preparation. As containing the views and ripening experience of one of the most prominent and leading American gynecologists, provided with the amplest means and opportunities for developing his views and carrying out the most elaborate researches.

A brief review of his work may not be without

interest to those interested, many of whom will not have access to the original work. He opens by announcing his working rules to be: 1. Antisepsis up to the moment of beginning the operation; 2. Asepsis through the operation; 3. Preservation of the aseptic state after the operation. Distilled or filtered water alone is used, and instruments are sterilized by steam in a Rohrbeck oven for one-half hour before operation. The patient likewise receives baths for several days, with vaginal douches of the bichloride, 1–1,000, or a 3 per cent. solution of carbolic acid, twice daily. More thorough measures are employed if a hysterectomy be contemplated, as attention to diet, opening the bowels, washing the abdomen with a bichloride solution, 1–1,000, and the administration of ¼ gr. of morphia and 30 grs. of bismuth. Minute details are given of the preparation of gauze, towels, sponges and ligatures. The most elaborate toilet of operator and assistants is insisted on—as change of clothes, repeated washing of hands, etc. No antiseptic solutions are used upon the patient during the operation, but distilled water alone, but in dressing the wound the latter is covered thickly with a dry powder of iodoform and boric acid (1 to 7), a thin layer of bichloride cotton is laid over this, then a wide roll of plain absorbent cotton, and the whole held in place by a flannel or muslin bandage. A table is given of fifty cases of abdominal section performed within a period of 139 days. The last case is also numbered 253, implying that the operator has performed that number of sections. There were no exploratory incisions and only two hopeless cases were refused operation. All the cases of ovarian tumor made quick recoveries. He relates a case of pyosalpinx in which the gonococcus Neisseri was found, but only after careful and prolonged search. The patient was a negress, aged 20, and the organism was not found in the other tube, which contained a much larger quantity of pus.

He looks upon the operation for laceration of the cervix uteri, in well-selected cases, as one of the most important of our minor gynecological procedures. A long table is also given of minor gynecological operations. The entire mortality is represented by four cases, viz.:

1. Death five days after vaginal hysterectomy; septicæmia; no satisfactory cause found on post-mortem examination.

2. Death ten days after removal (laparotomy) of diseased tubes and ovaries and a fibromyoma of the uterus; no satisfactory cause for death found at post-mortem.

3. Laparotomy-hystero-myomectomy; peritonitis found at post-mortem.

4. Hystero-myomectomy; a large fibroid tumor filling abdomen; death on fourth day from volvulus; peritonitis found at post-mortem.

Dr. Whitridge Williams contributes a report of a case of carcinoma of the cervix uteri in a full-blooded negress, a very exceptional occurrence. The work is illustrated by engravings of Dr. Kelly's operating room and by some wood cuts. E. F. C.

MISCELLANY.

LETTERS RECEIVED.

Dr. Frank Allport, Minneapolis, Minn.; Dr. H. Graff, Eau Claire, Wis.; Dr. D. C. Brockman, Marengo, Ia.; Dr. J. H. McBride, Wauwatosa, Wis.; Dr. S. Neal & Son, Peru, Neb.; The Eastman Company, Rochester, N. Y.; L. D. White, Keokuk, Ia.; Ross, Daniels & Co., Buffalo, N. Y.; Dr. X. C. Scott, Cleveland, O.; Dr. Hugh Morrow, Richland Center, Wis.; Dr. G. W. Lowry, Hastings, Mich.; Mrs. W. P. Kane, La Fayette, Ind.; Dr. M. J. Magruder, Medical Dept. Tulane University, La. Med. Library Ass'n, New Orleans, La.; Dr. H. C. Dalton, Peacock Chemical Co., St. Louis, Mo.; Dr. P. H. Reilly, Mineral Point, Wis.; University of Pennsylvania Press, Dr. W. B. Atkinson, Dr. J. Ewing Mears, Dr. J. Solis-Cohen, Phila.; Dr. Archibald Church, Chicago, Ill.; Med. Dept. Columbian University, Washington, D. C.; Gustav E. Stechert, Robinson-Baker Advertising Bureau, Dauchy & Co., J. Walter Thompson, J. H. Bates, New York City; Dr. A. W. McColl, Toronto, Ontario; Dr. J. F. Jenkins, Tecumseh, Mich.; Parke, Davis & Co., The Citizens' Savings Bank, Dr. J. O. Cobb, Detroit, Mich.; Doliber-Goodale Co., Boston, Mass.; Dr. C. G. Bacon, Fulton, N. Y.; Dr. D. Watson, Bellefontaine, O.; Dr. R. L. Thomson, Spokane Falls, Washington; Dr. Chalant, Liege, Belgium; Dr. J. Mount Bleyer, A. L. Chatterton & Co., New York City; Dr. Herbert Judd, Galesburg, Ill.; Dr. R. J. Dunglison, Dr. J. Abbott Cantrell, Phila.; Dr. L. Brown, Postville, Iowa; Dr. E. V. Brown, Burnside, Ill.; Dr. W. G. Austin, Quarantine P. O., La.; Dr. S. B. Rowe, Rolla, Mo.; Dr. F. H. Caldwell, Sanford, Fla.; Dr. F. B. Robinson, Toledo, O.; Dr. J. H. Parke, Flat Lick, Ky.; Dr. C. H. Beadles, Chicago; Providence Chemical Works, St. Louis; Dr. G. C. Bacon, Fulton, N. Y.; Chas. S. Baker & Co., Chicago; Dr. A. L. Hummel, Hummel, Philadelphia; Clark & Forbes, Miamisburg, O.; First National Bank, Chicago; L. D. White, Keokuk, Iowa.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from October 18, 1890, to October 24, 1890.

Asst. Surgeon N. S. Jarvis, granted leave of absence for one month, on surgeon's certificate of disability. S. O. 107, Dept. of Arizona, October 14, 1890.

Capt. James E. Pilcher, Asst. Surgeon, is granted leave of absence for four months. By direction of the Secretary of War. Par. 12, S. O. 244, A. G. O., October 18, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending October 25, 1890.

P. A. Surgeon F. J. B. Cordeiro, detached from U. S. S. "Nipsic," and granted three months' leave of absence

P. A. Surgeon A. C. Heffenger, placed on Retired List October 20, 1890.

CORRIGENDA.

In THE JOURNAL of October 25, page 5 of advertisements, second paragraph of the Maltine M'f'g Co.'s announcement, for "The sugar of milk in Maltine," read "The sugar of *malt* in Maltine." In the same issue, page 626, fifth line from top of second column, for "H. O. Dalton" read "H. C. Dalton."